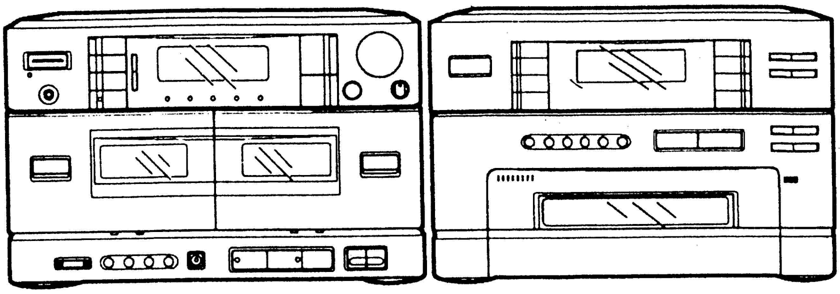
FILE NO.

Service Manual

Mini Component System DC D70 (XE)



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PRODUCT CODE No.
129 380 01

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This Service manual is consist of "RB-D70","DC-D70CT","DC-D70DA".

REFERENCE No. SM580068

SPECIFICATION

CASSETTE DECK / AMPLIFIER UNIT

Cassette decks

Track system	4-track, 2-channel stereo
Frequency response	Chrome tapes: 40 - 13,500 Hz Normal tapes : 40 - 12,500 Hz
Wow and flutter	0.14% (WRMS)
Fast forward / rewind time	Approx. 120 sec. (C-60)

Amplifier

Output power	40 W x 2 (at 8 ohm, 0.9% distortion)
Graphic equalizer	7 band electronic
Spectrum analyzer	7 band
Inputs	PHONO : 2.5 mV / 50k ohms VIDEO : 250 mV / 50k ohms
Outputs	SUPER WOOFER OUT : 600 mV SPEAKERS : 8 ohms PHONES : 8 ohms

General

Power requirements	AC : 230(115) V, 50 Hz
Power consumption	100 W
Dimensions(approx.)	270 (W) x 178 (H) x 317 (D) mm
Weight(approx.)	6.4 kg

TUNER / TIMER / CD CHANGER UNIT

Tuner

Reception frequency	FM : 87.5 - 108 MHz MW : 522 - 1,611 kHz LW : 144 - 290 kHz

CD changer

Type	10-disc magazine changer
Channels	2-channel stereo
Sampling frequency	44.1 kHz
Pick-up	Optical 3-beam semiconductor laser
Frequency response	20 - 20,000 Hz
Wow and flutter	Below measurable limits

General

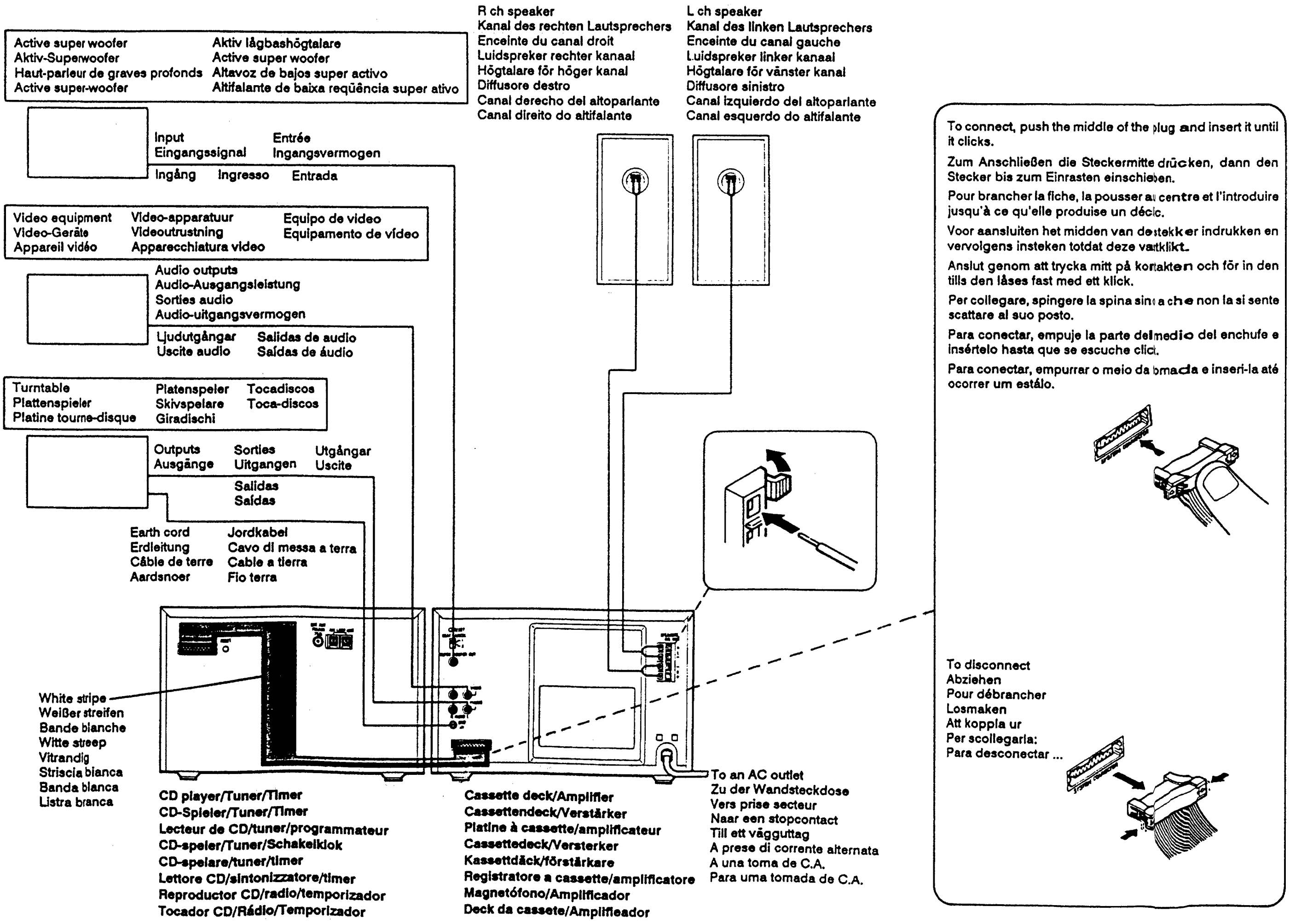
Dimensions(approx.)	270 (W) x 178 (H) x 307 (D) mm
Weight(approx.)	4 kg

REMOTE CONTROLLER (RB-D70)

Power requirements	DC : 3V "R03 / AAA / UM-4" Battery x 2
Dimensions(approx.)	58 (W) x 18 (D) x 186 (H) mm

Specification subject to change without notice.

SYSTEM CONNECTION


R ch speaker
Kanal des rechten Lautsprechers
Enceinte du canal droit
Luidspreker rechter kanaal
Högtalare för höger kanal
Diffusore destro
Canal derecho del altoparlante
Canal direito do altifalante
L ch speaker
Kanal des linken Lautsprechers
Enceinte du canal gauche
Luidspreker linker kanaal
Högtalare för vänster kanal
Diffusore sinistro
Canal izquierdo del altoparlante
Canal esquerdo do altifalante
Active super woofer
Aktiv-Superwoofer
Haut-parleur de graves profonds
Active super-woofer
Aktiv lågbashögtalare
Active super woofer
Altavoz de bajos super activo
Altifalante de baixa reqüência super ativo
Input
Eingangssignal
Entrée
Ingangsvermogen
Ingång
Ingresso
Entrada
Video equipment
Video-Geräte
Appareil vidéo
Video-apparatuur
Videoutrustning
Apparecchiatura video
Equipo de video
Equipamento de vídeo
Audio outputs
Audio-Ausgangsleistung
Sorties audio
Audio-uitgangsvermogen
Ljudutgångar
Uscite audio
Salidas de audio
Saídas de áudio
Turntable
Plattenspieler
Platine tourne-disque
Platenspeler
Skivspelare
Giradischi
Tocadiscos
Toca-discos
Outputs
Ausgänge
Sorties
Uitgangen
Utgångar
Uscite
Salidas
Saídas
Earth cord
Erdleitung
Câble de terre
Aardsnoer
Jordkabel
Cavo di messa a terra
Cable a tierra
Fio terra
White stripe
Weißer streifen
Bande blanche
Witte streep
Vitrandig
Striscia bianca
Banda blanca
Listra branca
CD player/Tuner/Timer
CD-Spieler/Tuner/Timer
Lecteur de CD/tuner/programmateur
CD-speler/Tuner/Schakelklok
CD-spelare/tuner/timer
Lettore CD/sintonizzatore/timer
Reproductor CD/radio/temporizador
Tocador CD/Rádio/Temporizador
Cassette deck/Amplifier
Cassettendeck/Verstärker
Platine à cassette/amplificateur
Cassettedeck/Versterker
Kassettdäck/förstärkare
Registratore a cassette/amplificatore
Magnetófono/Amplificador
Deck da cassete/Amplifieador
To an AC outlet
Zu der Wandsteckdose
Vers prise secteur
Naar een stopcontact
Till ett vägguttag
A prese di corrente alternata
A una toma de C.A.
Para uma tomada de C.A.
To disconnect
Abziehen
Pour débrancher
Losmaken
Att koppla ur
Per scollegarla:
Para desconectar ...

To connect, push the middle of the plug and insert it until it clicks.

Zum Anschließen die Steckermitte drücken, dann den Stecker bis zum Einrasten einschieben.

Pour brancher la fiche, la pousser au centre et l'introduire jusqu'à ce qu'elle produise un déclic.

Voor aansluiten het midden van de stekker indrukken en vervolgens insteken totdat deze vastklikt.

Anslut genom att trycka mitt på kontakten och för in den tills den låses fast med ett klick.

Per collegare, spingere la spina sino a che non la si sente scattare al suo posto.

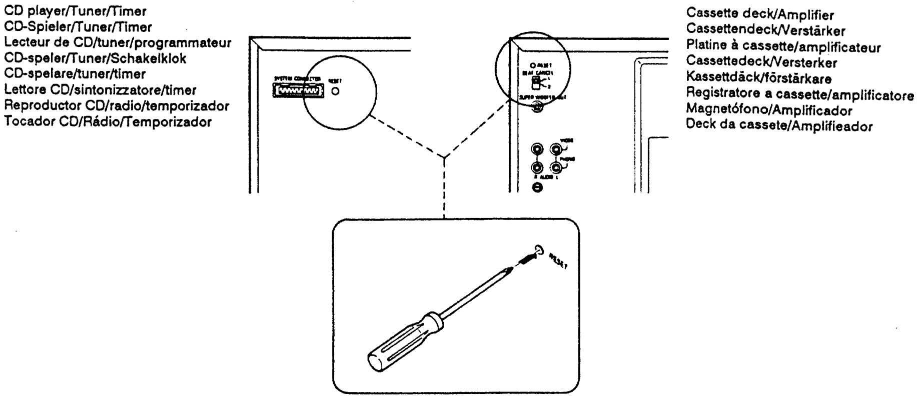
Para conectar, empuje la parte del medio del enchufe e insértelo hasta que se escuche click.

Para conectar, empurrar o meio da tomada e inseri-la até ocorrer um estálo.

OPERATING THE RESET SWITCH

This CD / TUNER and TAPE DECK / PRE-AMPLIFIER unit is provided with a reset switch on the rear panel. The reset switch serves to initialize the microprocessor in the each units which controls the CD, TUNER, TAPE DECK and etc block. If the unit is to be serviced or key input is not acknowledged even when the CD / TUNER, TAPE DECK and etc. operation buttons are pressed, press the RESET switch and initialize the microprocessor following the step below.

1). Disconnect the AC power cord from the power outlet.
2). Keep the RESET switch depressed for 60 seconds.
(The backed up electrolytic capacitor is discharged by keeping the RESET switch depress.)
3). Reconnect the AC power cord to the power outlet.
4). Press the CD / TUNER, TAPE DECK and etc. operations, and check their operation.


CD player/Tuner/Timer
CD-Spieler/Tuner/Timer
Lecteur de CD/tuner/programmateur
CD-speler/Tuner/Schakelklok
CD-spelare/tuner/timer
Lettore CD/sintonizzatore/timer
Reproductor CD/radio/temporizador
Tocador CD/Rádio/Temporizador
Cassette deck/Amplifier
Cassettendeck/Verstärker
Platine à cassette/amplificateur
Cassettedeck/Versterker
Kassettdäck/förstärkare
Registratore a cassette/amplificatore
Magnetófono/Amplificador
Deck da cassete/Amplifieador
RESET
RESET
RESET

PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.
N.S.P : Not available as service parts.

PACKING

Ref. No.	Part No.	Description
	614 243 2273	INNER CARTON
	614 239 0740	PAD,TOP
	614 239 0733	PAD,BOTTOM
	614 244 4436	PAD,PLAIN,8CM TRAY
	614 246 8876	SHEET,CT UNIT
	614 239 1778	SHEET,DA UNIT
	614 244 0261	INNER POLYE COVER,CT UNIT
	614 244 0261	INNER POLYE COVER,DA UNIT
	614 245 9683	POLY COVER,REMOCON
	614 244 0247	INNER POLYE COVER, INST & ACCESSORY
	614 176 1039	INNER POLYE COVER,SCREW
	614 176 2234	INNER POLYE COVER,8CM TRAY
	614 231 6832	LABEL,SAFETY,LASER

ACCESSORIES

Ref. No.	Part No.	Description
	614 243 2297	INSTRUCTION MANUAL
	614 023 7344	ANTENNA,FM
or	614 229 4635	ANTENNA,FM
	614 234 5511	LOOP ANTENNA,AM
	411 083 9307	SCR WOOD RND 3.1X13, AM ANT
	614 239 5288	ASSY,CONNECTOR-P,19P, CD/TUNER - DECK/AMP UNIT

REMOTE CONTROLLER UNIT

PARTS LIST

REMOCON (RB-D70)

Ref. No.	Part No.	Description
	614 245 9621	ASSY,REMOCON
	614 245 9591	LID,BATTERY

TUNER / CD CHANGER UNIT

ADJUSTMENT (TUNER)

- Use a plastic screwdriver for adjustment.
- Adjust the intermediate frequency of AM and FM to the frequency of ceramic filter.

1. FM BAND

SG RF Level : 75 ohm Open voltage dBμV
Antenna : 75 ohm Direct, Modulation : 1kHz, Dev. : ±75kHz (mono) · ±40kHz (main) · ±6.75kHz(pilot)

STEP	ITEMS	TUNING FREQUENCY	INPUT CONDITION		OUTPUT CONDITION		PARTS	STANDARDS
			MEASURE	INPUT	MEASURE	OUTPUT		
1	COVER	87.5MHz 108.0MHz	------	------	Digital Voltmeter	TP202(H) TP201(E)	------ ------	Confirm 1.4~1.6V Confirm ≦8.5V (about 7.8V)
2	IF(0V)	98.0MHz	FM SG (66dB)	TP211(H) TP212(E)	Digital Voltmeter	TP203(H) #TP204(E)	T2202	0±0.05V
3	VCO	98.0MHz	FM SG (66dB)	TP211(H) TP212(E)	Frequency Counter	TP206(H) TP207(E)	SVR23	##19KHz±50Hz

: TP204 is no earth point. ## : Adjust in the modulation off Tuner Mode : AUTO STEREO

2. MW BAND

Antenna : IRE Loop, Modulation : 1kHz 30% SG RF Level : 75 ohm Open voltage dBμV

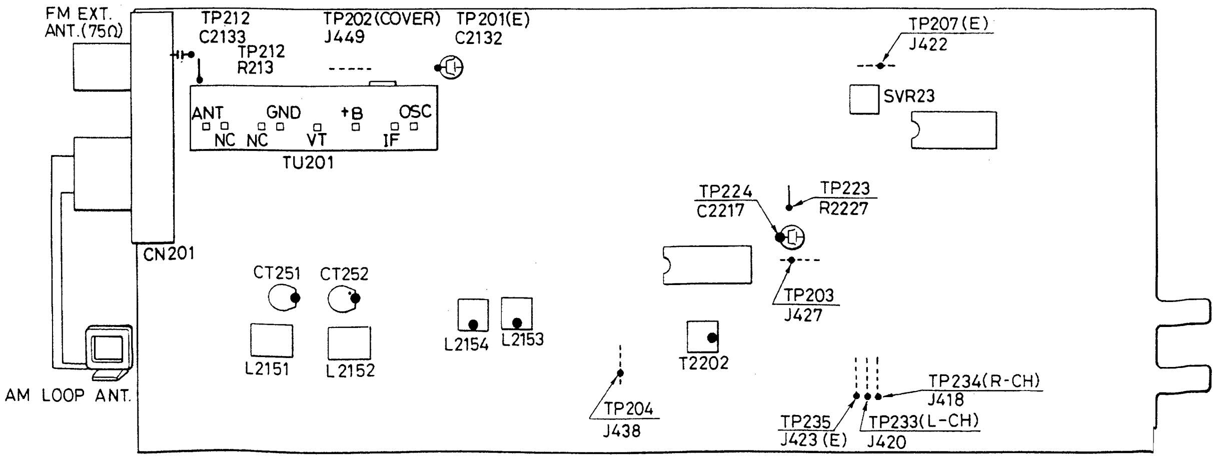
STEP	ITEMS	TUNING FREQUENCY	INPUT CONDITION		OUTPUT CONDITION		PARTS	STANDARDS
			MEASURE	INPUT	MEASURE	OUTPUT		
1	COVER	522kHz 1611kHz	------	------	Digital Voltmeter	TP202(H) TP201(E)	L2153 ------	Confirm 1.0 ~ 1.4V Confirm ≦8.5V(about 7.2V)
2	TRACKING	603kHz 1404kHz	AM SG (about 80dB)	LOOP ANT	VTVM Oscilloscope	TP233(L) TP234(R) TP235(E)	L2152 CT252	Output : Maximum Confirm to near the effective sensitivity.

------

3. LW BAND

STEP	ITEMS	TUNING FREQUENCY	INPUT CONDITION		OUTPUT CONDITION		PARTS	STANDARDS
			MEASURE	INPUT	MEASURE	OUTPUT		
1	COVER	144kHz 290kHz	------	------	Digital Voltmeter	TP202(H) TP201(E)	L2154 ------	Confirm 1.3 ~ 1.8V Confirm ≦8.5V(about 6.5V)
2	TRACKING	162kHz 279kHz	AM SG (about 80dB)	LOOP ANT	VTVM Oscilloscope	TP233(L) TP234(R) TP235(E)	L2151 CT251	Output : Maximum Confirm to near the effective sensitivity.

4. PARTS LOCATION


FM EXT. ANT.(75Ω)
TP212
C2133
TP212
R213
TP202(COVER)
J449
TP201(E)
C2132
ANT
GND
+B
OSC
NC
NC
VT
IF
TU201
TP207(E)
J422
SVR23
TP224
C2217
TP223
R2227
CN201
CT251
CT252
L2151
L2152
L2154
L2153
T2202
TP203
J427
TP204
J438
TP234(R-CH)
J418
TP235
J423(E)
TP233(L-CH)
J420
AM LOOP ANT.

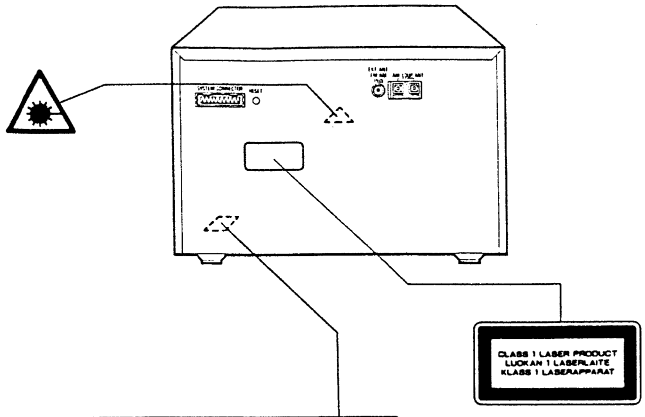
LASER BEAM SAFETY PRECAUTIONS (CD)

Do not look directly at the laser beam coming from the pick-up or allow it to strike against your fingers, skin, etc.
Do not apply power if there is a broken part in the laser output section of the pick-up.

Structural Safety Interlock

This model has a disc chuck lever and top lid. This disc chuck lever and top lid prevent to expose the laser beam for users.

INVISIBLE LASER RADIATION EXPOSURE TO BEAM IS DANGEROUS CLASS 1 LASER PRODUCT
OUTPUT POWER : 0.6 mW MAX WAVELENGTH : 790 nm



CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

ADVARSEL – USYNLIG LASER STRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION, UNDGÅ UDS ÆTTELSE FOR STRÅLING.

VARNING – OSYNLIG LASER STRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.

VORSICHT – UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT, DEM STRAHL AUSSETZEN.

VARO – AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

CAUTION - USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

ACHTUNG - WENN ANDERE ALS DIE HIER SPEZIFIZIERTEN BEDIENUNGS- ODER JUSTIEREINRICHTUNGEN BENÜTZT ODER ANDERE VERFAHRENS-WEISEN AUSGEFÜHRT WERDEN, KANN DIES ZU GEFÄHRLICHER STRAHLUNGSEXPOSITION FÜHREN.

ATTENTION - L'EMPLOI D'ORGANES DE COMMANDE OU DE RÉGLAGE, OU L'EXÉCUTION DE PROCÉDURES, AUTRES QUE CEUX SPÉCIFIÉS DANS LE MODE D'EMPLOI, PEUT PROVOQUER UNE EXPOSITION DANGEREUSE AU RAYONNEMENT.

OPGELET - HET GEBRUIK VAN REGELAARS OF HET MAKEN VAN AFSTELLINGEN E.D. DIE NIET IN DEZE GEBRUIKSAANWIJZING ZIJN BESCHREVEN KAN LEIDEN TOT SCHADELIJKE STRALINGEN.

VARNING! OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN VAD SOM BESKEIV I DENNA BRUKSANVISNING, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

CAUTELA - L'USO DI COMANDI, AGGIUSTAMENTI O PROCEDIMENTI DIVERSO DA QUELLO QUI SPECIFICATO PUÒ DAR LUOGO AD ESPOSIZIONE A RADIAZIONI PERICOLOSE.

VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

HANDLING THE PICK-UP (CD)

1. Shipping and storage cautions

a. The pick-up must be stored in a conductive bag until immediately prior to its use.
b. Do not drop it or subject it to impacts.

2. Repair cautions

a. When handling the pick-up, be careful not to give it undue force or shock by your hands. Otherwise the pick-up may malfunction or the PCB may be cracked.
b. The pick-up which has been minutely adjusted before shipment as one part. Never touch and move the adjusting points and setscrews of the pick-up unless otherwise described in the item of adjustment to avoid damage.

c. A strong magnet is used in the pick-up.
Do not bring a magnet or other magnetized object near to it.

d. Cleaning the lens
* If dust gets on the lens, clean it away by using an air brush such as used for a camera lens.
* The lens is held in place by a spring.
If the center of the lens is dirty, carefully clean it using cotton swab moistened with isopropylalcohol. Since special coating is made on the surface of the lens which is made of plastics, do not use other kind of alcohol and cleaning fluid to prevent damage to the lens. Also, be careful not to bend the lens spring when cleaning.

BEFORE REPAIRING THE CD PLAYER (CD)

1. Preparations

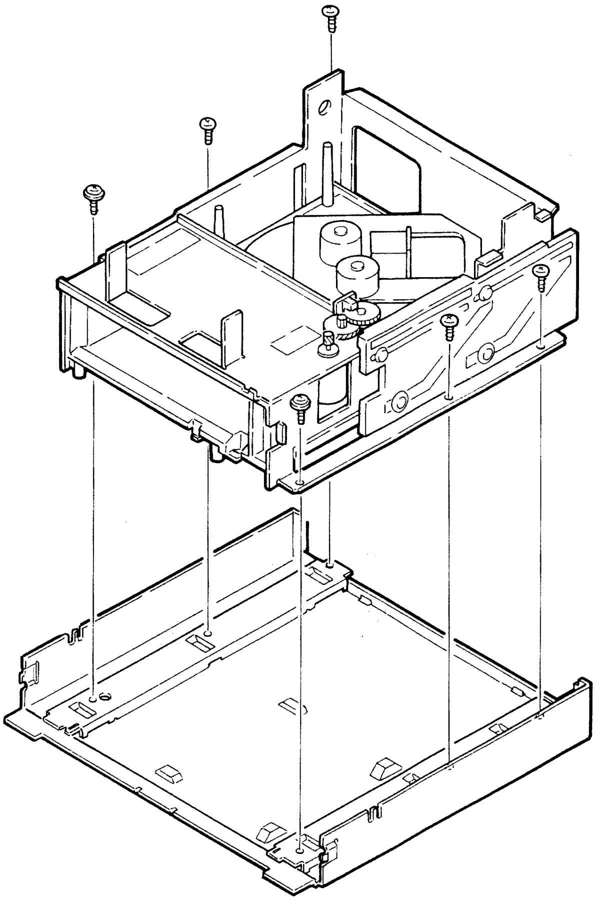
a. Many ICs, LSI and the Pick-up (laser diode) are used in the compact disc player. These components are sensitive to static electricity, and might be damaged by static electricity or high voltage, so particular care should be taken regarding this point.
b. Many precision components and the lens are used in the pick-up.
Never attempt to make repairs, or to store parts, where the temperature or humidity is high, where magnetism is strong, or where there is much dust.

2. Notes regarding repairs

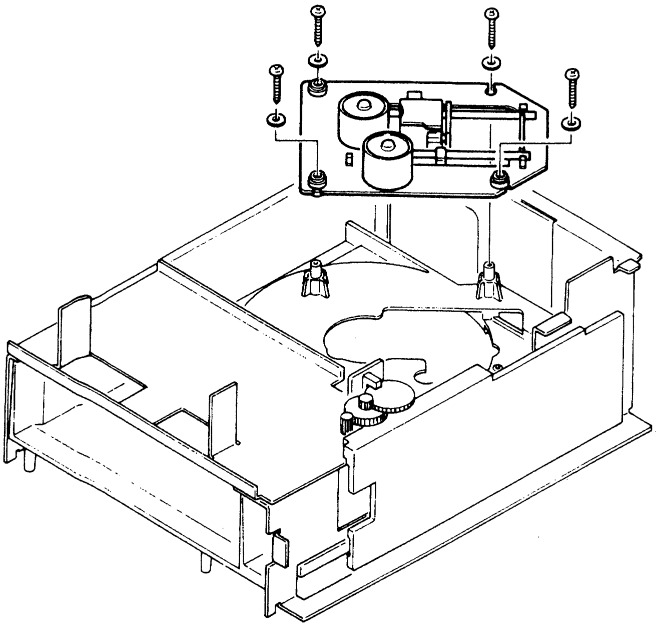
a. Be sure to first disconnect the power plug before attempting to replace any component.
b. All tools, instruments, etc., used for measuring must be grounded.
Grounding can be accomplished by using a conductive metal sheet on the work bench.
c. To prevent AV leakage of the soldering iron, ground its metal part.
d. Repair personnel must be grounded.

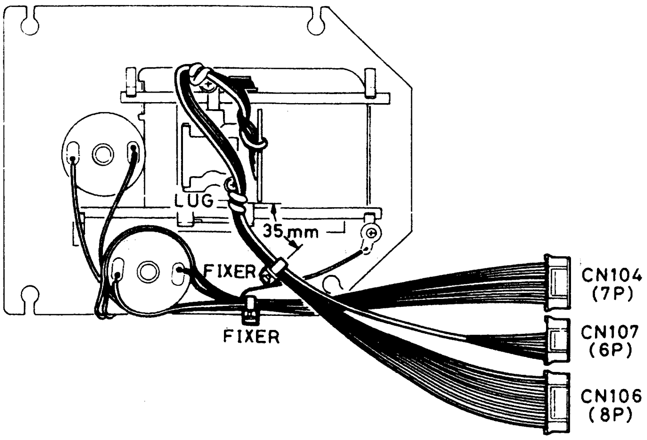
DISASSEMBLY

1. MECHANISM BLOCK



2. PICKUP MECHANISM




LUG
35mm
FIXER
FIXER
CN104 (7P)
CN107 (6P)
CN106 (8P)

MECHANISM REPLACEMENTS (CD)

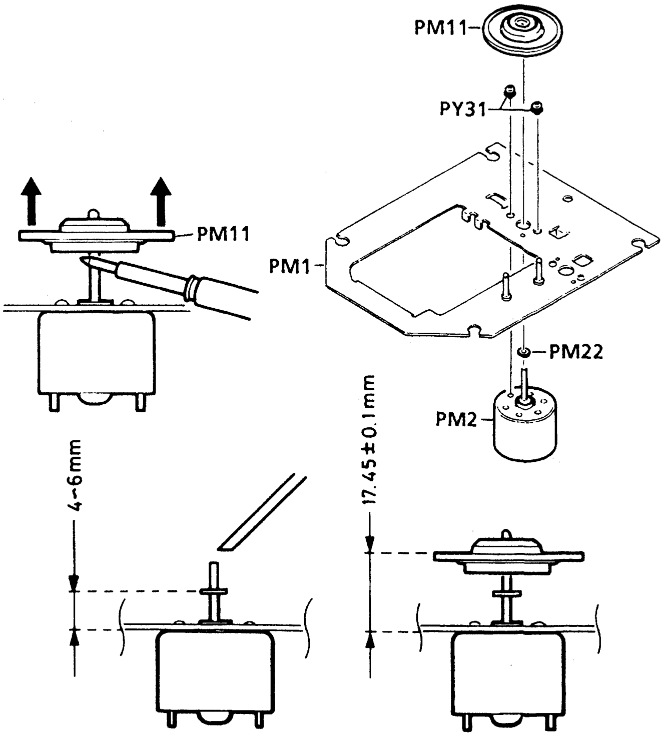
1. PREPARATIONS

- Note that the mechanism of the compact-disc changer is very delicate.
- It is very important that the spindle motor (which rotates the disc), and the sled motor (which causes the disc signals to be tracked), as well as the gear and other components, operate smoothly, without eccentricity.
- When handling the pickup, take care not to exert excessive force, and particular care should be taken not to touch the lens or the drive circuits printed circuit board pattern.

2. REPLACEMENT OF THE SPINDLE MOTOR

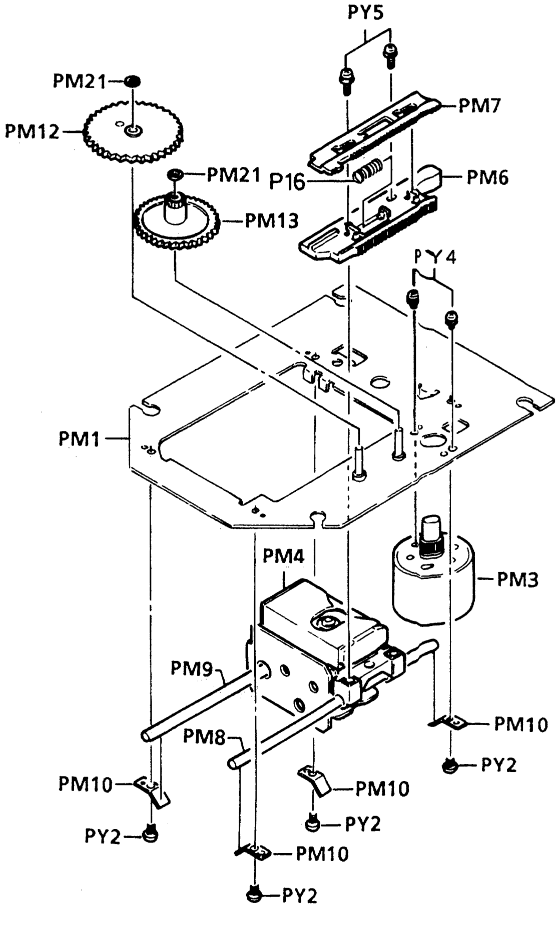
- First, prepare the new turntable and new special washer foe replacement. The removed turntable will be deformed by the heat of the soldering iron, and cannot de reused.
- Prepare the dial-type calipers.

1) The attached bonding material can be dissolved by using a 60W soldering iron to heat the shaft at the lower part of the Turntable (PM11) for about one minute.
2) The turntable can then be removed from the shaft by very carefully applying force upward at the center of the lower surface of the turntable.
3) Remove the two screws (PY3) and remove the Spindle motor (PM2).
4) Attach the special washer (PM22) to the spindle motor.
5) Apply a small amount of a mixture of the "Three Bond 2001" and "2105F" bonding materials to the motor's shaft.
6) Install the turntable as shown in the figure.
7) Secure the turntable by pressing gently. Be sure to wipe away (by using a place of cloth, or similar material) any bonding material coming out of the hole.

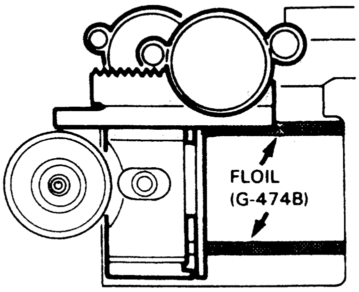


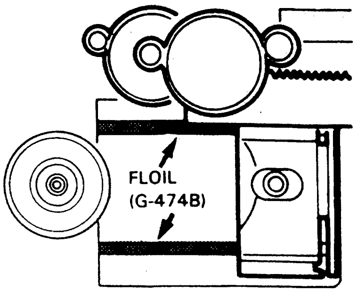
3. REPLACEMENT AND LUBRICATION OF THE PICKUP

1) Before replacement of the pickup, be sure to carefully read the section regarding the pickup when the unit is moved or transported.
2) Remove the four screws (PY2) holding the spring plates (PM10), and then take out with the shafts (PM8 and PM9) still attached.
3) If the pickup is reconditioned or replaced, be sure to wipe the rails clean and also apply a coating of grease (FLOIL G-474B) to their entire circumference and entire length.
4) After replacement, install the shaft as before, and tighten the four screws (PY2) for the spring plates (PM10).



MECHANISM REPLACEMENT (CD)

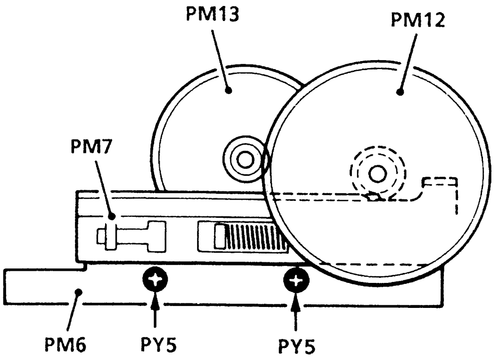




BE SURE, AT THIS TIME, NOT TO TOUCH ANY PART.

4. CHECKING THE OPERATION OF CD MECHANISM

1) Disconnect the socket (for the sled motor power supply) from the printed-circuit board.
2) Apply a voltage of DC1.7V to the sled motor's terminal.
3) Measure the current during sled motor operation. The direction of movement of the pickup (outer groove or inner groove) can be changed by changing the battery polarity.
4) The current during sled motor operation varies according to the positional relationship of the pickup activator gear (PM6) and the gear (PM12). If the current is equivalent to or exceeds the value shown in the table, tighten the screws (PY5) so the installation position of the gear (PM6) moves slightly. (If the current exceeds 34 mA, slightly increase the distance between the screws (PY5) and the gear (PM12).)

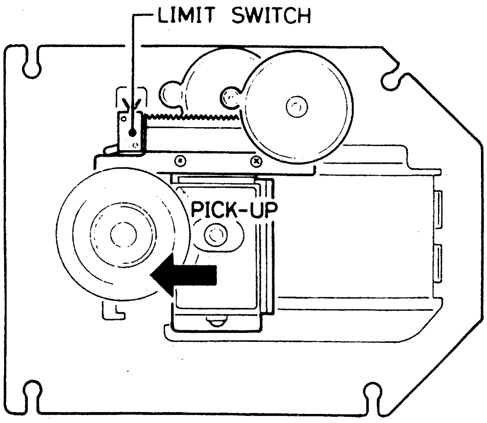


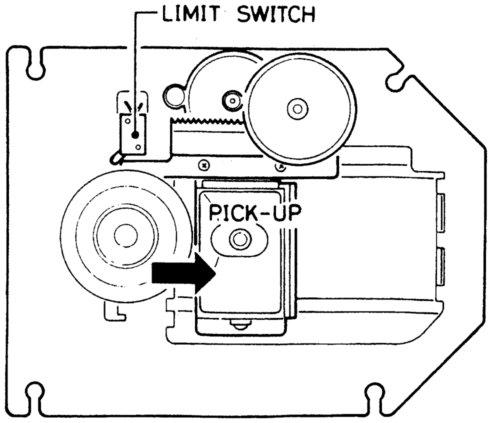
DIRECTION OF PICKUP MOVEMENT	SLED MOTOR CURRENT
OUTER GROOVE	34 mA OR LESS
INNER GROOVE	34 mA OR LESS

5. RESETTING THE PICKUP TO THE HOME POSITION

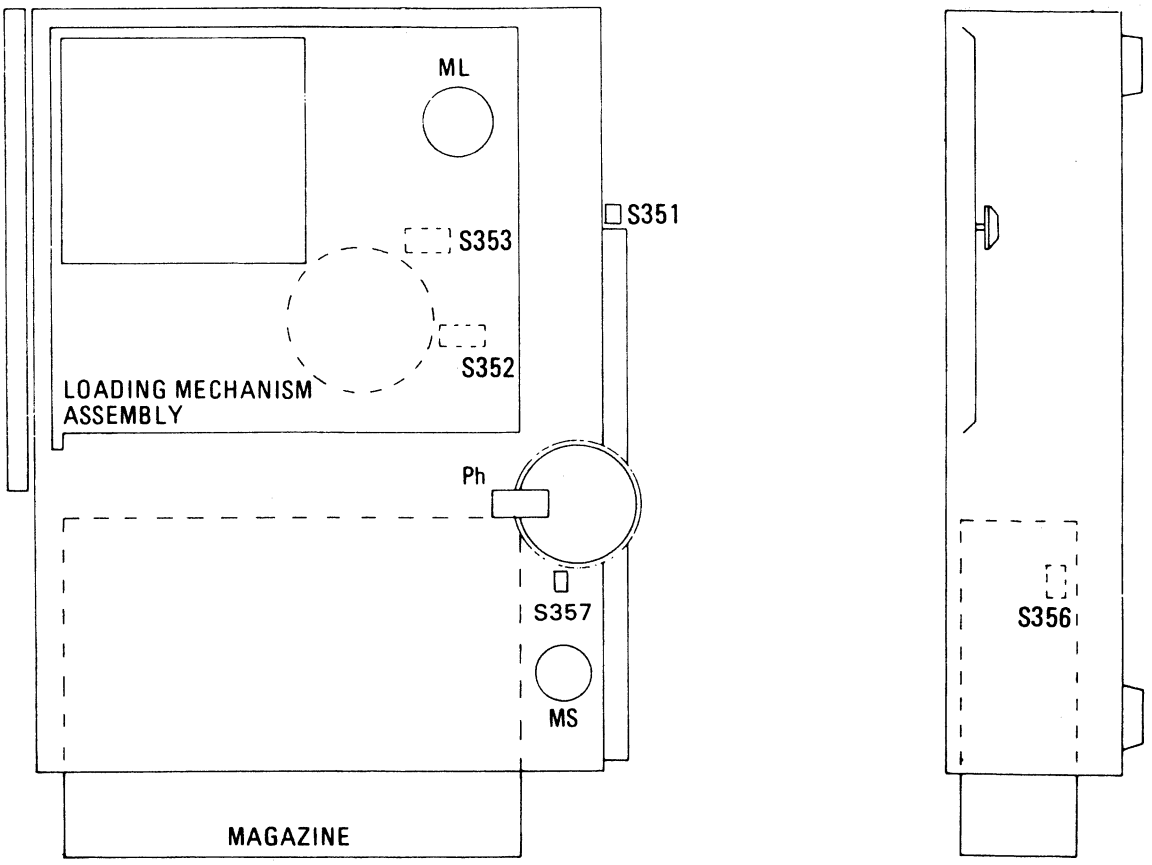
The limit switch is switched ON by the projection of the rack gear secured to the retuned pickup, after which the sled motor continues to operate (by the circuit) for approximately 30 milliseconds; there is then again a reverse operation, and movement to the position at which the switch is switched OFF.

Rotation continues for about 30 milliseconds after the switch is switched OFF, and then the pickup stops at home position.





OPERATION EXPLANATIONS FOR EACH MODE (CD)


ML
S353
S351
S352
LOADING MECHANISM ASSEMBLY
Ph
S357
MS
MAGAZINE
S356

Loading part

ML: Motor for tray pull-out, storage, and chucking.
S352: Chucking completion detect switch.
S353: Tray storage completion detect switch.

Disc selection part

MS: Motor for disc selection (loading mechanism assembly up /down) and magazine pull-out.
Ph: Disc selection position detection photo-sensor.
S351: Mechanism initialization position detect switch.

Magazine part

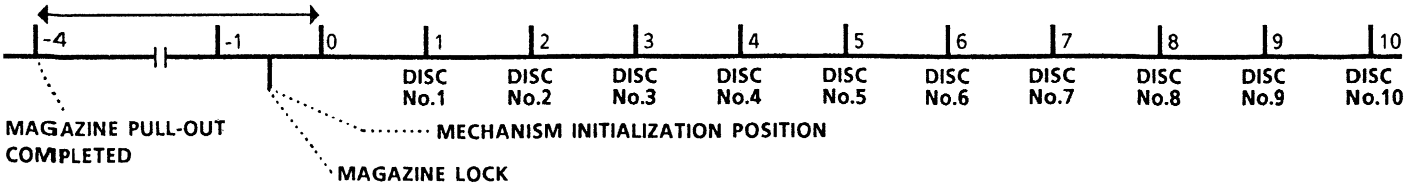
S356: Magazine existence detect switch
S357: Magazine existence detect switch

The relation between photo-sensor, disc selection position, magazine lock, and lock cancellation is shown below.

Bottom part of the loading part

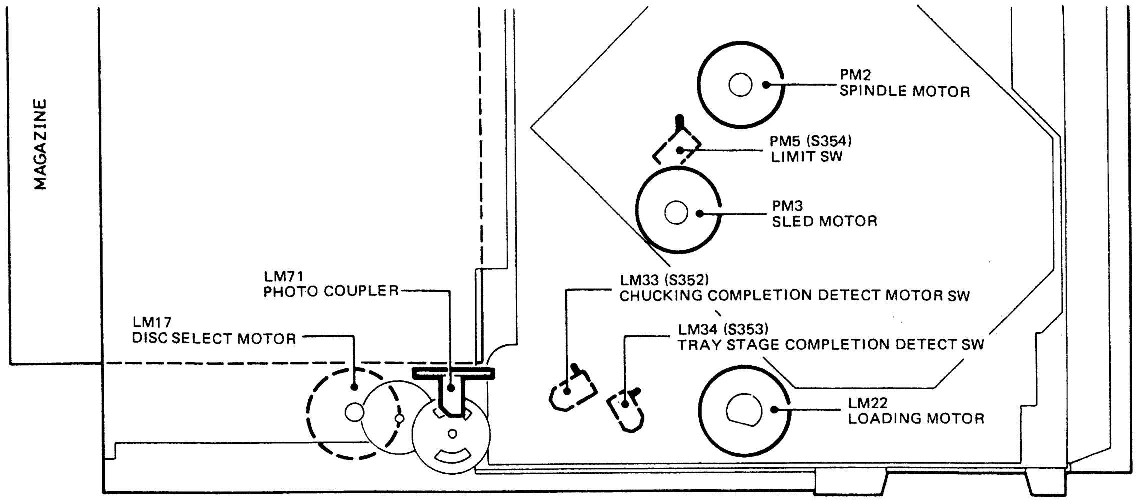
The slot position in photo-sensor and the position of each disc are decided mechanically, the mechanism initialization switch (S351) becomes OFF, and the position of the second slot corresponds to the disc height of the magazine No.1.

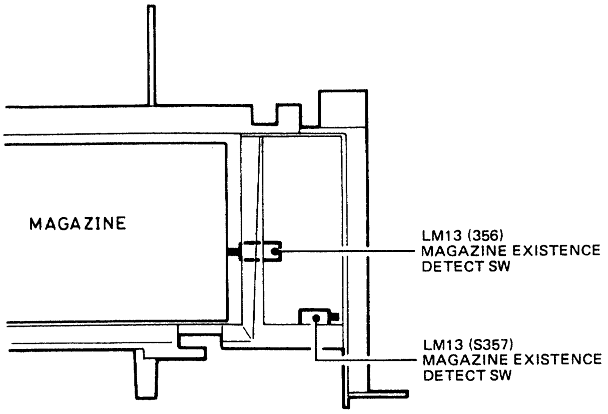
BOTTOM PART OF THE LOADING PART

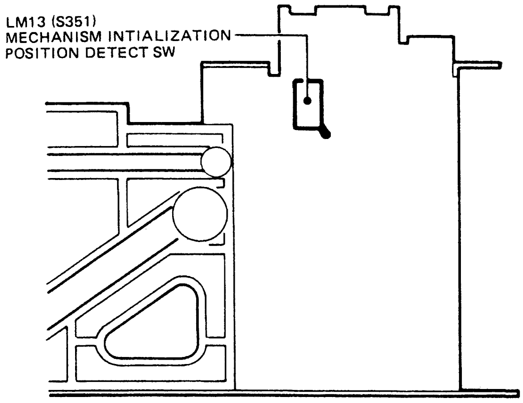

-4
-1
0
1
2
3
4
5
6
7
8
9
10
DISC No.1
DISC No.2
DISC No.3
DISC No.4
DISC No.5
DISC No.6
DISC No.7
DISC No.8
DISC No.9
DISC No.10
MAGAZINE PULL-OUT COMPLETED
MECHANISM INITIALIZATION POSITION
MAGAZINE LOCK

AUTO-CHANGER MECHANISM OPERATION EXPLANATION (CD)

MAIN PARTS LOCATION


MAGAZINE
PM2
SPINDLE MOTOR
PM5 (S354)
LIMIT SW
PM3
SLED MOTOR
LM71
PHOTO COUPLER
LM17
DISC SELECT MOTOR
LM33 (S352)
CHUCKING COMPLETION DETECT MOTOR SW
LM34 (S353)
TRAY STAGE COMPLETION DETECT SW
LM22
LOADING MOTOR


MAGAZINE
LM13 (356)
MAGAZINE EXISTENCE
DETECT SW
LM13 (S357)
MAGAZINE EXISTENCE
DETECT SW

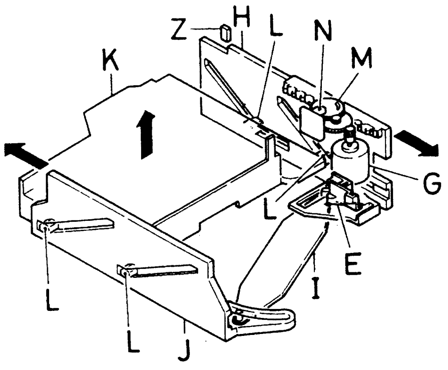

LM13 (S351)
MECHANISM INTIALIZATION
POSITION DETECT SW

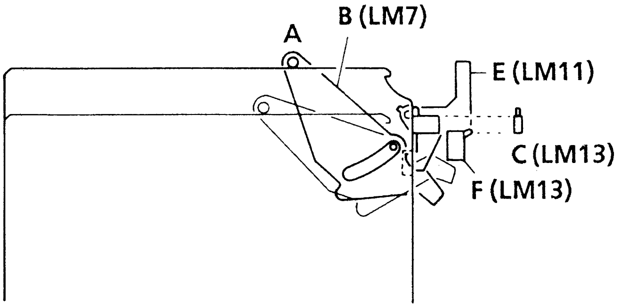
AUTO-CHANGER MECHANISM OPERATION EXPLANATION (CD)

1. OPERATION

Prepare a magazine for 10 disc.

1. Set the power switch to ON. Switch Z becomes to ON (to reset).
2. At the time of magazine insertion, set the magazine so that the front edge of the magazine comes into contact with the magazine trip pin A and turns the lever B.
3. During insertion of the magazine, the front right corner of the magazine sets the switch C (magazine existence detection).
4. When the magazine is inserted all the way into the mechanism, the lock lever E enters into the square hole at the right side of the magazine, the magazine is locked, and the switch F is switched ON.



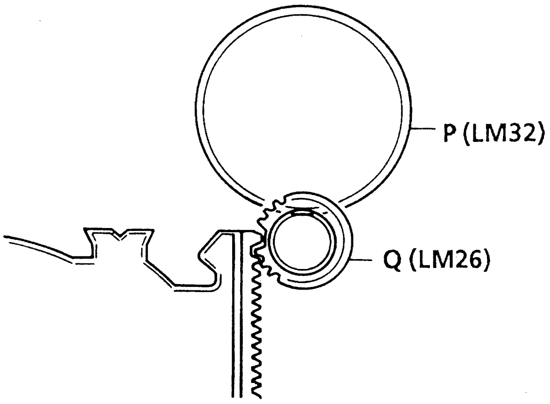


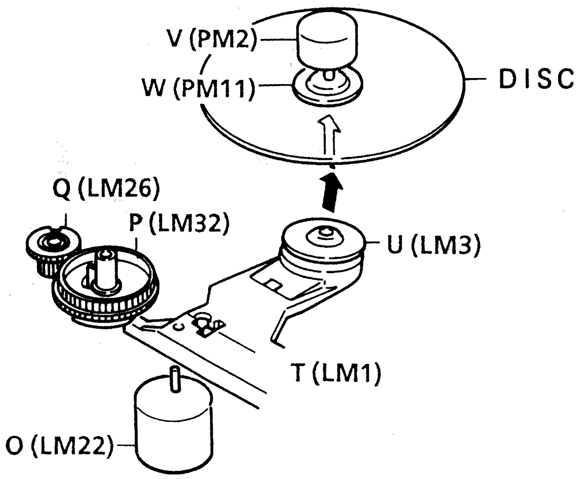
5. When the play button is depressed (for example for the disc No.1), the disc selection motor G runs, and the slide H on the right side is moved via gear, rack, etc. to the front of the set.
6. When the slide H moves to the front, the slide J on the left side is moved to the rear via the lever I, and the loading chassis is moved upwards by the engagement of the four shafts L with the loading chassis K with the diagonal grooves of the slide.

   Note 1 : The rise distance of the loading chassis K is decided by the number of revolutions of the gear M.

   Note 2 : The number of the gear revolution is counted by the photo-sensor N by means of the two square holes in the gear. (The loading chassis rises by one disc per 1/2 turn of the gear M.

7. After matching of the height of the loading chassis K with the height of the magazine tray, the tray pull-out motor (loading motor) O starts to run.
8. The tray pull-out motor O drives the cam gear P, the tray pull-out gear Q.



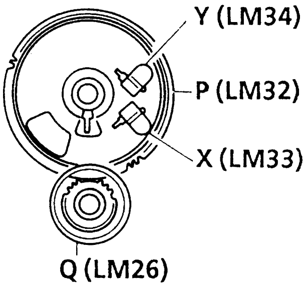


AUTO-CHANGER MECHANISM OPERATION EXPLANATION (CD)

9. The specified tray in the magazine is pulled out by the tray pull-out gear Q, and the disc on the tray is brought to the play position.
10. Afterwards, the chuck lever T is pushed up by the cam of the revolving cam gear P, the disc is clamped by the chuck pulley U and the turntable W installed on the spindle motor V, the chucking completion switch X becomes ON at the rotation end of the cam gear P.

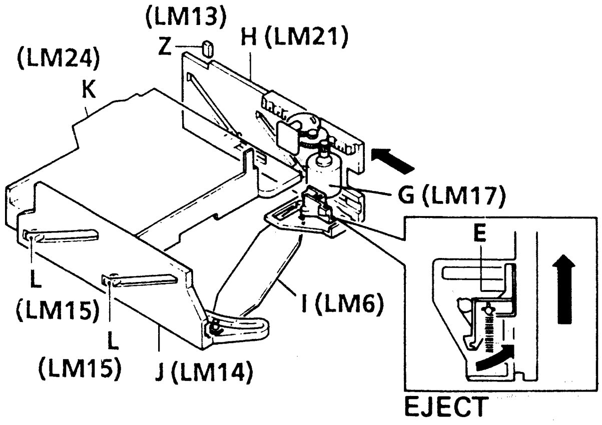
2. OPERATION AT THE TIME OF STOP

The operations 1 to 10 are executed reversely (motor operation in opposite direction), the tray is stored in the magazine, the switch Y fur completion of tray storage in the magazine becomes ON at the opposite revolution end of the cam gear, the loading chassis returns to the bottom position (standby position), and the stop operation is completed.



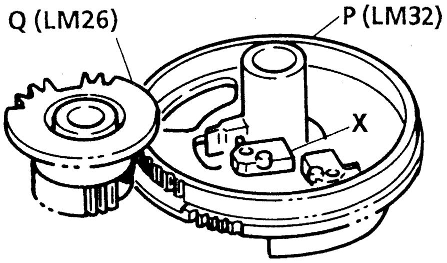
3. OPERATION AT THE TIME OF EJECTION

The motor G runs is opposite direction of the time of play, the slide H at the right side moves to the rewind, the slide H at disengages the magazine lock lever E, and the magazine is ejected by the trip pin A.

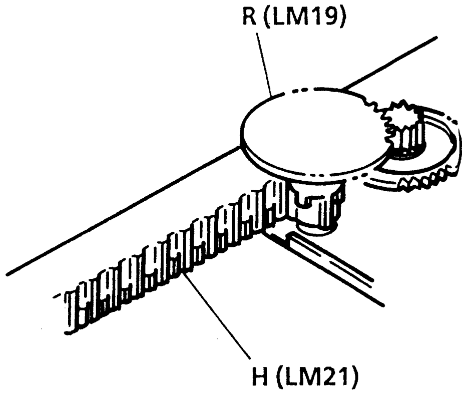


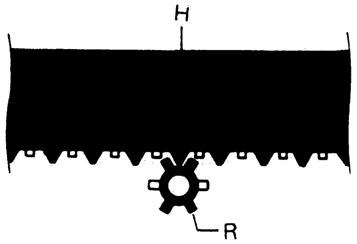
4. TIMING MATCHING FIR THE PEAR RELATION

1. When the cam gear part (P · Q) has removed once, the timing between P and Q must be matched again according to the following procedure.
   1). Match the part without gear of Q with the part without gear of the large gear part of the gear P. Don't damage to switch X when to insert the gear.
   2). After the above matching, fix with screw.



2. **Couple to upper gear and lower gear. Couple to the long ditch of the gear R and the long tooth of the slide H.**





SERVICE MODE

Specifications

To enter any service mode other than timer debugging, first simultaneously press the OPEN/CLOSE and BAND keys on the CT unit. This accesses the service mode entry state. Now press one of the buttons on the CT unit to enter a service mode. As the service mode entry state is discontinued after 1 second elapses, the system will enter a service mode only if the next key is pressed within one second.

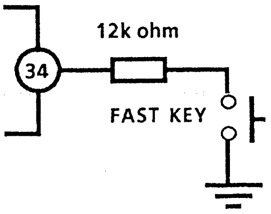
1. Confirm the clock

- When the CLOCK key is pressed during the service mode entry state, a rectangular wave with a frequency of one- fourth that of the oscillating frequency (1.048576MHz) is output from the micro processor's port CLKOUT.
- The clock output is stopped by pressing either the POWER or SET CLEAR key.

2. Timer debugging

- When the FAST key is pressed, the current time advances one minute and the seconds readout changes to 55 seconds. If the key is held down the time advances continuously.
- The FAST key, a concealed key not actually mounted to the set.

  Note : For timer debugging, the service mode entry state (entered by simultaneously pressing the OPEN/CLOSE service mode entry key and the BAND key) is not necessary.


34
12k ohm
FAST KEY

3. Checking the key input signal connections

- Enter this mode by pressing the MEMORY(TUNER) key during the service mode entry state.
- The entire LCD goes out once this mode is entered.
- In this mode, as keys on the CT unit (or remote control unit) are pressed segments on the LCD corresponding to each key on a one-to-one basis come on (i.e. the lit portions gradually increase). (Refer to Table 1.)

KEY	DISPLAY	KEY	DISPLAY	KEY	DISPLAY
TIME / FADE	TIME	CLOCK	REC		
REPEAT	REPEAT	SLEEP	SLEEP	BAND	DIGIT 4 : 8
STOP	ONE	TUNING UP	SIDE A	PST UP	1 OF CALENDAR
CD MEMORY	PROG.	TUNING DOWN	SIDE B	PST DOWN	2 OF CALENDAR
PLAY / PAUSE	▻	WAKE UP	WAKE UP	FM/TUNE MODE	3 OF CALENDAR
RANDOM	RANDOM	TIMER	TIMER	DISC UP	6 OF CALENDAR
OPEN / CLOSE	ALL	SET / CLEAR	@	FWD	DISC
EDIT	EDIT	MEMORY	5 OF CALENDAR	BACK	TRACK
COMPUTER REC	COMP. REC			DISC DOWN	7 OF CALENDAR

@ : Releases the key checking mode and returns the set to the normal mode.

TABLE 1 : CORRESPONDING KEYS AND DISPLAYS IN THE KEY CHECKING MODE

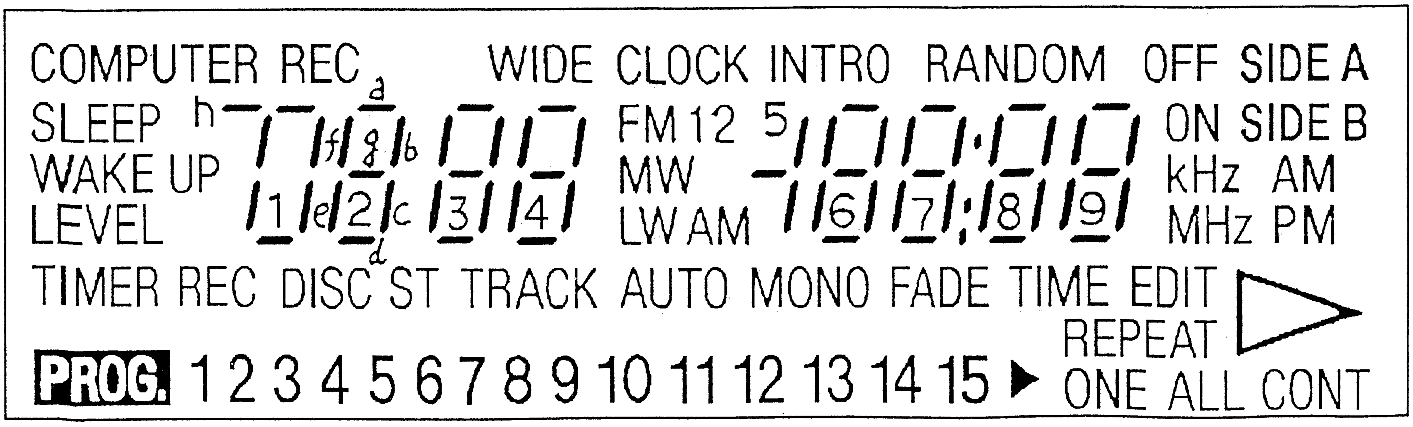

COMPUTER REC
a
WIDE CLOCK INTRO RANDOM OFF SIDE A
SLEEP
h
f
g
b
FM 12
5
ON SIDE B
WAKE UP
MW
kHz AM
LEVEL
1
e
2
c
3
4
LW AM
6
7
8
9
MHz PM
d
TIMER REC DISC ST TRACK AUTO MONO FADE TIME EDIT
REPEAT
PROG.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
ONE ALL CONT

FIGURE 1 : LCD (LIQUID CRYSTAL DISPLAY)

SERVICE MODE

4. Checking LCD connections

- Enter this mode by pressing the OPEN/CLOSE key during the service mode entry state. (See note.)
- The entire LCD goes out once this mode is entered.
- In this mode, one segment of the LCD lights each time the OPEN/CLOSE key is pressed.
- Press the SET/CLEAR key to exit this mode and return to the normal mode.

5. System connector checking mode

- Enter this mode by pressing the BAND key during the service mode entry state.
- Before entering this mode, connect a jig at the beginning of the system connector cord as shown in Figure 2.
- In this mode, check the signal connections shown in Table 2 for the set's CT unit and system connector cord.
- The results of the checking of connections appear on the LCD as shown in Table 2.
- Press the SET/CLEAR key to release the system connector checking mode and return to the normal mode.

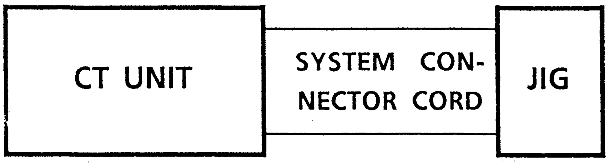


FIGURE 2 : CONNECTION DURING THE SYSTEM CONNECTOR CHECKING MODE

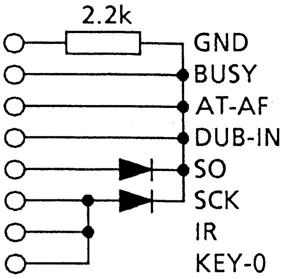


FIGURE 3 : CIRCUIT DIAGRAM OF THE CONNECTOR CHECKING JIG

STATE	DISPLAY	STATE	DISPLAY
SO is N.G.	0	BUSY is N.G.	4
SCK is N.G.	1	IR is N.G.	5
DUB-IN is N.G.	2	KEY-0 is N.G.	6
AT-AF is N.G.	3	All OK	-

Note: : With the D series, the system connector checking mode cannot be entered when the SCK(AD unit) connection is defective.

TABLE 2 : DISPLAYS DURING SYSTEM CONNECTOR CHECKING

6. CD tracking balance adjusting mode

- Enter this mode by pressing the PLAY/PAUSE key during the service mode entry state.
- If the power is off when this mode is entered, the power automatically comes on.
- In this mode, the tracking balance adjustment state (tracking is off) is automatically entered after the tray is completely closed. If the PLAY key is pressed in this state, the tracking servo is turned on and playing is begun at the present position. Therefore, the readout on the display at the time playing is begun indicates the initial position of the pickup (i.e. the position of the limit switch).
- In this mode, the tracking balance adjustment state can be entered by pressing the MEMORY key during playing. Pressing the PLAY key in this state turns on the tracking servo and causes playing to begin.
- Turning off the power releases the CD tracking balance adjusting mode.

7. CD operation display mode

- Enter this mode by pressing the STOP key during the service mode entry state.
- If the power is off when this mode is entered, the power automatically comes on.

SERVICE MODE

- In this mode, when CD function are used, displays like those shown in Table 3 (which represent CD operations different than normally displayed) appear in the LCD track number display.
- In this mode, the calendar numbers shown in Table 4 come on when an error occurs in CD operations, at which time the track number and calendar displays become fixed at their current readouts. To release these fixed displays, press the STOP key while operations are stopped.
- This mode is released when the power is turned off.

DISPLAY	OPERATION	DISPLAY	OPERATION
00	Focus search has been begun	6 -	TOC reading has been completed (success/failure)
0 1	Focus search has been begun	70	L-point access has been begun
02	Waiting for focusing	7 1	L-point access (REV64 track jump)
03	Focusing	72	L-point access (FWD64 track jump)
04	Spindle kick is in progress	73	L-point access (REV16 track jump)
05	Both CLV and tracking are ON	74	L-point access (FWD16 track jump)
06	Both CLV and tracking are ON	75	L-point access (REV1 track jump)
0 -	Focus search has been completed (success, failure)	76	L-point access has been completed
A -	Pickup mechanism rising is in progress	80	Pausing has begun
- -	Pickup mechanism downing is in progress	83	Pause (REV16 track jump)
L -	Un-loading the tray from magazine	84	Pause (FWD16 track jump)
-	loading the tray to magazine	85	Pause (REV1 track jump)
30	Spindle braking has begun	86	Pause (trace)
3 1	Spindle braking is in progress	90	Music access has begun
32	Pick return is in progress	9 1	Music access (high-speed access has begun)
3 -	Spindle braking & pick return have been completed	92	Music access (high-speed access is in progress)
40	Fast forwarding is in progress	93	Music access (high-speed access has been completed)
4 1	Rewinding is in progress	94	Music access (high-speed access has been completed)
50	Playing has begun	95	Music access (high-speed access has been completed)
5 1	Playing is in progress.	96	Music access (REV64 track jump)
52	Playing is in progress (skip return operation)	97	Music access (FWD64 track jump)
60	TOC reading has been begun	98	Music access (REV16 track jump)
6 1	TOC reading is in progress	99	Music access (FWD16 track jump)
62	TOC reading is in progress	9 -	Music access (final stage)

TABLE 3 : DISPLAYS DURING THE CD OPERATION MODE (TRACK NO PART)

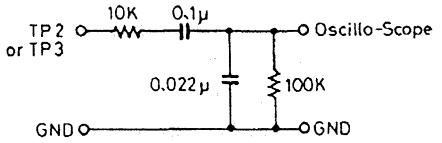
NUMBER	STATE OF CD ERROR
1	Focusing is not possible in focus search.
2	The subcode is not input during disc startup.
3	TOC cannot be read.
4	The focus was lost while the servo was on (during playing, etc.).
5	The subcode is not input while the servo is on (during playing, etc.).

TABLE 4 : DISPLAY OF CD ERRORS (MUSIC CALENDAR PART)

CD ADJUSTMENT

Electrical Adjustment

So far we have presented explanations regarding compact disc player handling, notes prior to repair, handling the pick-up and disassembly of the unit. Be sure to carefully read these instructions before making any adjustments.


10K
0.1μ
TP 2
or TP 3
Oscillo-Scope
0.022μ
100K
GND
GND

BAND PASS FILTER

Preparations for Adjustments

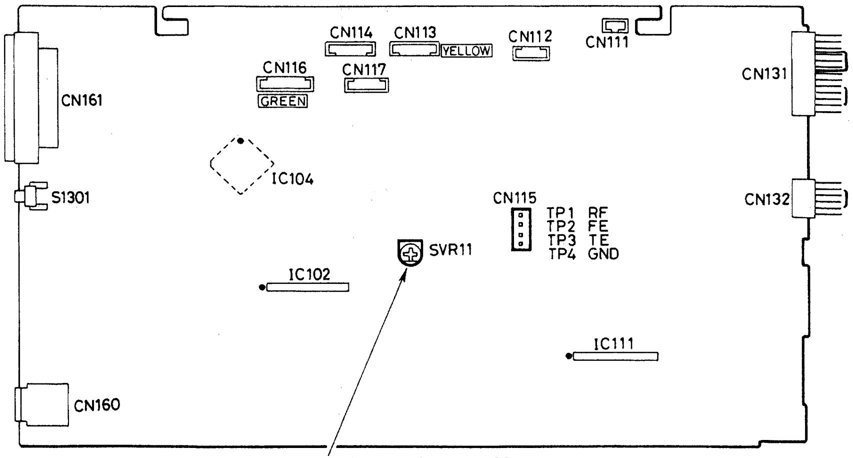
Measuring instruments, tools and filter

(1) Test disc. : YEDS 18 (Sony)
(2) Oscilloscope : SS5711 (10MHz or dual phenomenon)
    or Memoryscope : DSS6521 (Storagescope)
(3) Digital voltmeter (Input impedance 1M ohm or more)
(4) AF Oscillator (400Hz, 300mV RMS)
(5) Frequency Counter (5MHz ; or more)
(6) Screw drivers (non-metalic) for adjustments
(7) Band Pass Filter
(8) AC Voltage Meter

Notes : a. The adjustments can be using the equipment produced by other manufactures provided that the performance of that equipment corresponds to that of the above listed models.
b. Use a 10 : 1 probe for observing signals on the oscilloscope and storage scope.
c. Test disc is subject change without notice.

1. Initial set

Set the SVR11 at its initial position of adjustment controls as shown in figure below.

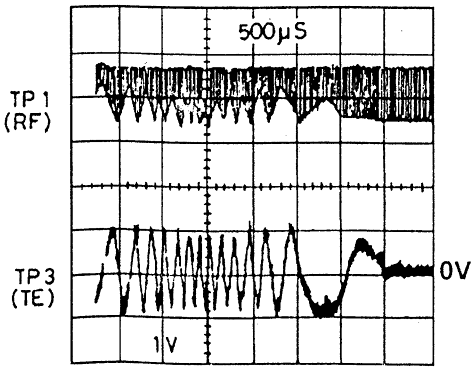

CN114
CN113
YELLOW
CN112
CN111
CN116
CN117
GREEN
CN161
CN131
IC104
S1301
CN115
TP1 RF
TP2 FE
TP3 TE
TP4 GND
CN132
SVR11
IC102
IC111
CN160

SVR11 : TRACKING BALANCE
INITIAL SETTING :MECHANICAL CENTER

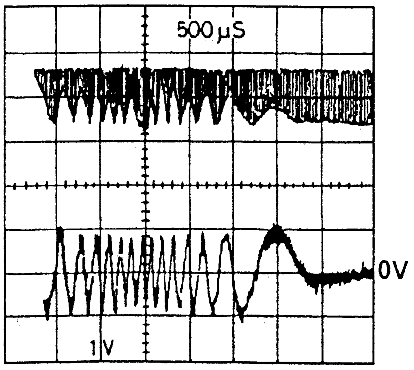
2. Tracking Balance Adjustment (SVR11)

1. Connect the oscilloscope to TP3 (TE) and TP4 (GND.).
2. Turn on the power of the unit. Insert test disc .
3. Play-back the test disc.
4. Continuously press the forward search ▸▸ or backward-search ▸▸ button to do it
5. Adjust SVR11 so that the TE (Tracking Error) signal waveform of TP3 on the oscilloscope is vertically symmetrical relative to 0V. (See figure right side)

*If the adjustment is imperfect, become run away the sled motor (pick-up sending motor), inferior playability.



◀◀ SEARCH

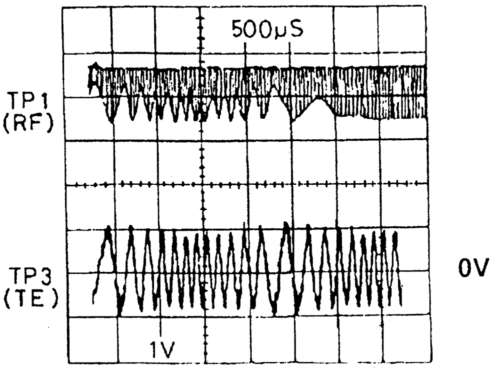


SEARCH ▶▶

CD ADJUSTMENT

2. Other Adjustment of Tracking Balance (SVR11)

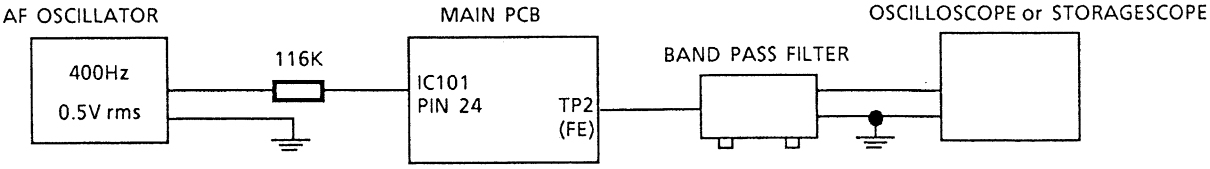
1. Set the service mode (CD tracking balance adjusting mode).
   - Enter this mode by pressing the PLAY/PAUSE key during the service mode entry state. Pressing the PLAY / Pause key in this state turns on the tracking servo and causes playing to begin. (See service mode)
2. Connect the oscilloscope to TP3 (TE) and TP4 (GND).
3. Adjust SVR11 so that the TE (Traverse) signal waveform of TP3 on the oscilloscope is vertically symmetrical relative to 0V. Or may adjust SVR11 so that the DC voltage : (Peak Hold Level) - (Bottom Hold Level) of the traverse signal is 0V. (See figure right side)
4. If it were not for obtain waveform at the right figure, repeat item 2-1 ~2-3.



3. Focus Gain Confirmation

1. Connect the storage scope to TP2 (F.E : Focus Error) through the Band pass filter. (See BPF Figure)
2. Turn on the power of the unit.
3. Play-back the test disc.
4. Set the output of AF oscillator to 400Hz, 0.5V rms and connect to pin 24 (IC101) through the resistor : 116k ohms.
5. Confirm so that the voltage of the F.E signal waveform on the storage scope is 0.5V p-p, ± 3db by through BPF.

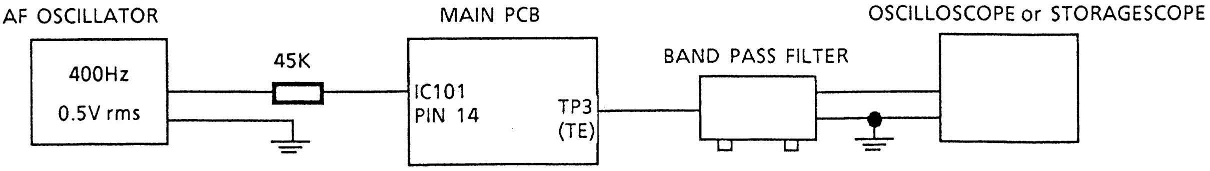
*If this CONFIRMATION is imperfect, become weak the mechanical shock, inferior playability, and can not playback the Disc.


AF OSCILLATOR
400Hz
0.5V rms
116K
MAIN PCB
IC101
PIN 24
TP2
(FE)
BAND PASS FILTER
OSCILLOSCOPE or STORAGESCOPE

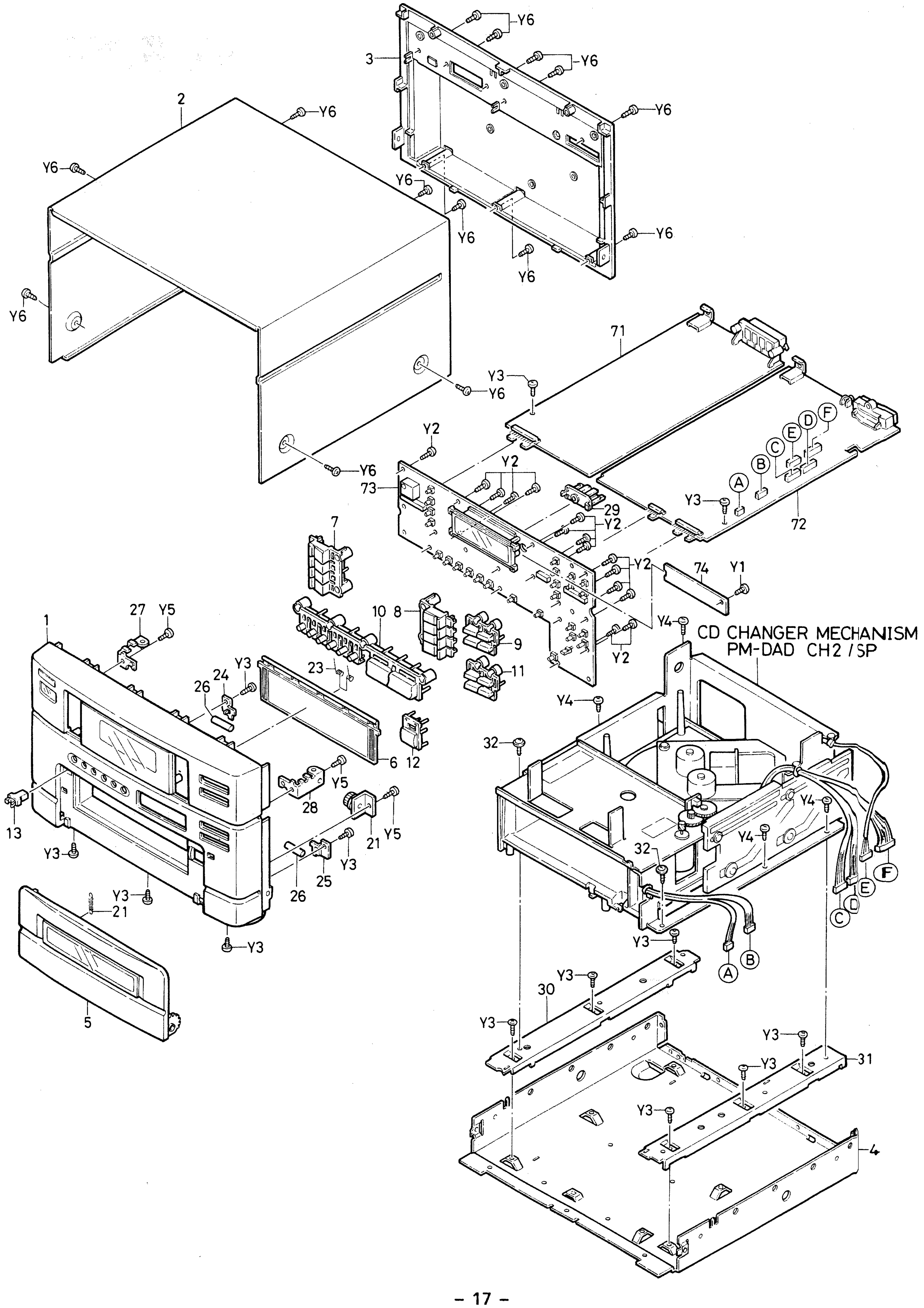
4. Tracking Gain Confirmation

1. Connect the storage scope to TP3 (T.E) through the Band pass filter. (See BPF Figure).
2. Turn on the power of the unit.
3. playback the test disc.
4. Set the output of AF oscillator to 400Hz, 0.5V rms and connect to pin 14 (IC101) through resistor 45k ohms.
5. Confirm so that the voltage of T.E signal waveform on the storage scope is 0.5V p-p, ± 3db by through BPF.

*If this CONFIRMATION is imperfect, become weak the mechanical shock, inferior playability, and can not playback the Disc.


AF OSCILLATOR
400Hz
0.5V rms
45K
MAIN PCB
IC101
PIN 14
TP3
(TE)
BAND PASS FILTER
OSCILLOSCOPE or STORAGESCOPE

EXPLODED VIEW (TUNER & CD CHANGER UNIT)


Y6
3
Y6
2
Y6
Y6
Y6
Y6
Y6
Y6
Y6
Y6
Y6
71
Y3
Y6
Y2
Y2
Y6
73
29
Y2
F
D
E
C
B
A
Y3
72
7
Y2
74
Y1
27
Y5
1
10
8
Y4
CD CHANGER MECHANISM
PM-DAD CH2 / SP
9
Y2
11
Y3
24
23
26
Y4
32
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12
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Y5
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Y4
Y4
Y3
Y3
25
26
32
F
E
D
C
Y3
21
Y3
Y3
B
A
Y3
30
5
Y3
Y3
31
Y3
Y3
4

PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.

N.S.P : Not available as service parts.

CABINET

Ref. No.	Part No.	Description
1	614 239 0993	ASSY,PANEL,FRONT
2	614 239 0924	ASSY,CABINET,TOP
3	614 243 1658	ASSY,PANEL,REAR
4	614 239 0931	ASSY,CABINET,BOTTOM
5	614 240 1217	ASSY,COMPARTMENT LID
6	614 238 9928	ASSY,DOOR
7	614 239 1136	BUTTON,TIMER ETC.
8	614 239 1143	BUTTON,BAND ETC.
9	614 239 1150	BUTTON,TUN,PRESET
10	614 239 1167	BUTTON,CD
11	614 239 2997	BUTTON,CD SKIP
12	614 239 0542	BUTTON,CD EJECT
13	614 219 0593	ASSY,JOINT,DOOR

CHASSIS

Ref. No.	Part No.	Description
21	614 200 1851	SPRING COIL,COMPARTMENT LID
22	614 069 0385	ASSY,GEAR,DOOR DUMPER
23	614 239 3000	SPRING,TENS,DOOR
24	614 239 0580	BRACKET-M,SHAFT,LEFT
25	614 239 0597	BRACKET-M,SHAFT,RIGHT
26	614 239 0627	SHAFT,DOOR
27	614 239 1198	BRACKET-E,TU PCB
28	614 239 1204	BRACKET-E,CD PCB
29	614 239 1211	MOUNT-E,TU PCB
30	614 239 0566	BRACKET-M,CD MECHA LEFT
31	614 239 0573	BRACKET-M,CD MECHA RIGHT
32	412 003 1708	SPECIAL SCREW,MECHAFIXING
	614 191 3698	LABEL,CAUTION,LASER BEAM
	614 232 0464	LABEL,SAFETY,LASER BEAM

FIXING PARTS

Ref. No.	Part No.	Description
Y1	411 021 3107	SCR S-TPG BIN 2.6X8
Y2	411 021 1806	SCR S-TPG BIN 2.6X10
Y3	411 021 6405	SCR S-TPG BIN 3X8
Y4	411 022 4608	SCR S-TPG FLT 3X8
Y5	411 021 3503	SCR S-TPG BIN 3X10
Y6	411 021 3701	SCR S-TPG BIN 3X10

ELECTRICAL PARTS

Ref. No.	Part No.	Description

TUNER P.C.BOARD ASSY

Ref. No.	Part No.	Description
71	614 245 6538	ASSY,PCB,TUNER MAIN
C2152	403 082 0201	POLYPRO 470P J 100V
C2155	403 082 2205	POLYPRO 560P J 100V
C2304	403 080 5000	POLYPRO 1000P J 100V
C2458	403 106 1603	NP-ELECT 1U Q 50V
CF201	614 240 2917	FILTER,CERAMIC,10.7MHZ,FM
CF202	614 240 2917	FILTER,CERAMIC,10.7MHZ,FM
CF204	614 211 2939	FILTER,459KHZ,AM
CF205	614 030 7443	I.F FILTER,459KHZ,AM
CN201	614 210 2688	TERMINAL,(DIN)+PUSH 2P, FM ANT
CN241	614 225 3502	PLUG,14P,TO FRONT PCB
CN260	614 234 1728	TERMINAL
CT251	614 007 6332	TRIMMER,30PF,GR,LW
CT252	614 007 6356	TRIMMER,11PF,WH,MW
D2151	407 091 5004	VARACTOR DI SVC321SPA-C-2
D2152	407 091 5004	VARACTOR DI SVC321SPA-C-2
D2201	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D2301	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D2302	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
IC201	409 195 3108	IC LA1265-AUD
IC202	409 016 9500	IC LA3361
IC203	409 066 7600	IC LM7001
L2151	614 216 1029	TRANS,RF,LW
L2152	614 032 8059	ANT COIL,MW
L2153	614 239 7268	TRANS,OSC,MW
L2154	614 239 7275	TRANS,OSC,LW
L2201	614 028 4379	FILTER,CHOKE,1MH,AM
L2451	614 028 4256	FILTER,CHOKE,100UH,VDD
Q2105	405 012 5904	TR 2SC1923-Y
Q2131	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2152	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2153	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2154	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2155	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2156	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2157	405 114 8407	TR 2SK193-LL
or	405 114 8506	TR 2SK193-ML
Q2158	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2201	405 018 7902	TR 2SC380TM-O
Q2202	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2203	405 001 7001	TR 2SA1015-GR
Q2301	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2302	405 067 0800	TR RN2207

PARTS LIST

Ref. No.	Part No.	Description
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2351	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2352	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2354	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2355	405 067 0800	TR RN2207
or	405 078 2404	TR BN1A4P
or	405 000 0904	TR DTA114YS
Q2451	405 114 1804	TR 2SC1815(L)-GR
or	405 114 1903	TR 2SC1815(L)-Y
Q2452	405 114 1804	TR 2SC1815(L)-GR
or	405 114 1903	TR 2SC1815(L)-Y
Q2461	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2701	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2702	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q2801	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q2802	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
R2465	⚠ 401 018 1209	CARBON 33 JB 1/4W
SVR23	614 223 1906	POTENTIOMETER,10K(B),VCO
or	614 204 1901	SEMI-FIXED V.R,10K(B),VCO
TU201	614 241 7447	TUNER,RF-END,FM
T2202	614 030 4114	I.F.T,10.7MHZ,FM
T2203	614 029 3906	MX COIL,LPF
T2701	614 027 7845	COIL,CHOKE,TRAP
T2801	614 027 7845	COIL,CHOKE,TRAP
X2451	614 240 1118	RESONATOR,7.2MHZ,FOR IC203
or	614 234 0486	RESONATOR,7.2MHZ,FOR IC203

CD P.C.BOARD ASSY

Ref. No.	Part No.	Description
72	614 247 6659	ASSY,PCB,CD MAIN
C1301	403 196 9602	DL-ELECT 0.047F Z 5.5V, BACK UP
C1302	403 135 3302	ELECT 1000U M 6.3V
C1608	403 043 3104	ELECT 2200U M 16V
C1609	403 042 6205	ELECT 1000U M 16V
CN111	614 017 2546	PLUG,3P,MECHA SENSOR
CN112	614 017 2560	PLUG,5P,MECHA SW & SELECT MOTOR
CN113	614 240 1897	PLUG,7P,LIMIT SW & SLED MOTOR
CN114	614 017 2584	PLUG,7P,MECHA SW & LOADING MOTOR
CN115	614 016 3865	PLUG,4P,TP1-4
CN116	614 228 0911	PLUG,8P PICKUP ACTUATOR
CN117	614 017 2577	PLUG,6P PICKUP SENSOR
CN131	614 225 6459	PLUG,13P,CD MICON-FRONT
CN132	614 225 6381	PLUG,6P,CD MICON-FRONT
CN160	614 234 1728	TERMINAL,1P,FOR CD EARTH
CN161	614 239 5455	SOCKET,19P,CT-AD UNIT
D1301	407 005 4505	DIODE DS442X
or	407 013 7109	DIODE 1S2473
D1302	407 050 1801	ZENER DIODE GZA3.9Z
or	407 053 5202	ZENER DIODE MTZ3.9B

Ref. No.	Part No.	Description
D1303	407 005 4505	DIODE DS442X
or	407 013 7109	DIODE 1S2473
D1304	407 005 4505	DIODE DS442X
or	407 013 7109	DIODE 1S2473
D1601	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1602	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1603	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1604	⚠ 407 004 9105	DIODE DSF10C
or	⚠ 407 012 3300	DIODE 1SR35-200A
D1605	407 005 4505	DIODE DS442X
or	407 013 7109	DIODE 1S2473
IC101	409 245 4802	IC LA9210M
IC102	⚠ 409 247 0000	IC LA6524
IC103	410 149 8803	IC UPD75517GF-114-3B9
IC104	409 248 8708	IC LC7866E
IC105	409 278 0109	IC SM5870DS
IC106	409 241 5506	IC XRA15218F
or	409 192 7109	IC BA15218F
IC107	⚠ 409 189 4203	IC M5278D05
IC108	⚠ 409 040 1105	IC NJM79L05A
IC109	⚠ 409 039 9204	IC NJM78L05A
IC111	⚠ 409 018 5500	IC LA6510
L1301	614 028 4133	FILTER,CHOKE,10UH
L1521	614 212 3171	INDUCTOR,FERITE,FOR EMI
L1522	614 212 3171	INDUCTOR,FERITE,FOR EMI
Q101	405 002 0308	TR 2SA1037K-R
Q102	405 014 4509	TR 2SC2412K-R
Q103	405 014 4509	TR 2SC2412K-R
Q1301	405 006 1806	TR 2SA933S-R
or	405 002 1305	TR 2SA1048-Y
or	405 006 1905	TR 2SA933S-S
Q1302	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
or	405 014 5209	TR 2SC2458-GR
Q1303	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
or	405 002 1305	TR 2SA1048-Y
Q1304	405 011 8500	TR 2SC1740S-R
or	405 011 8609	TR 2SC1740S-S
or	405 014 5209	TR 2SC2458-GR
Q1305	405 006 1806	TR 2SA933S-R
or	405 006 1905	TR 2SA933S-S
or	405 002 1305	TR 2SA1048-Y
Q1500	405 033 6805	TR 2SD1468S-S
Q1501	405 033 6805	TR 2SD1468S-S
S1301	614 221 8327	SWITCH,TACT,RESET
SVR11	614 223 1906	POTENTIOMETER,10K(B), SVR101,T.BAL ADJUST
X101	614 225 6633	RESONATOR,CERAMIC,16.93MHZ
X1301	614 229 3300	RESONATOR,XTAL,4.19MHZ

FRONT P.C.BOARD ASSY

Ref. No.	Part No.	Description
73	614 240 1965	ASSY,PCB, FRONT
	614 241 9151	REFLECTOR,LCD
	614 238 8037	SHEET,LCD
CN251	614 221 9133	SOCKET,13P,CD PCB
CN252	614 221 9065	SOCKET,6P,CD PCB
CN253	614 220 2481	SOCKET,14P,TUNER PCB
D2501	407 013 1701	DIODE 1S1588
or	407 013 7109	DIODE 1S2473
or	407 005 4505	DIODE DS442X

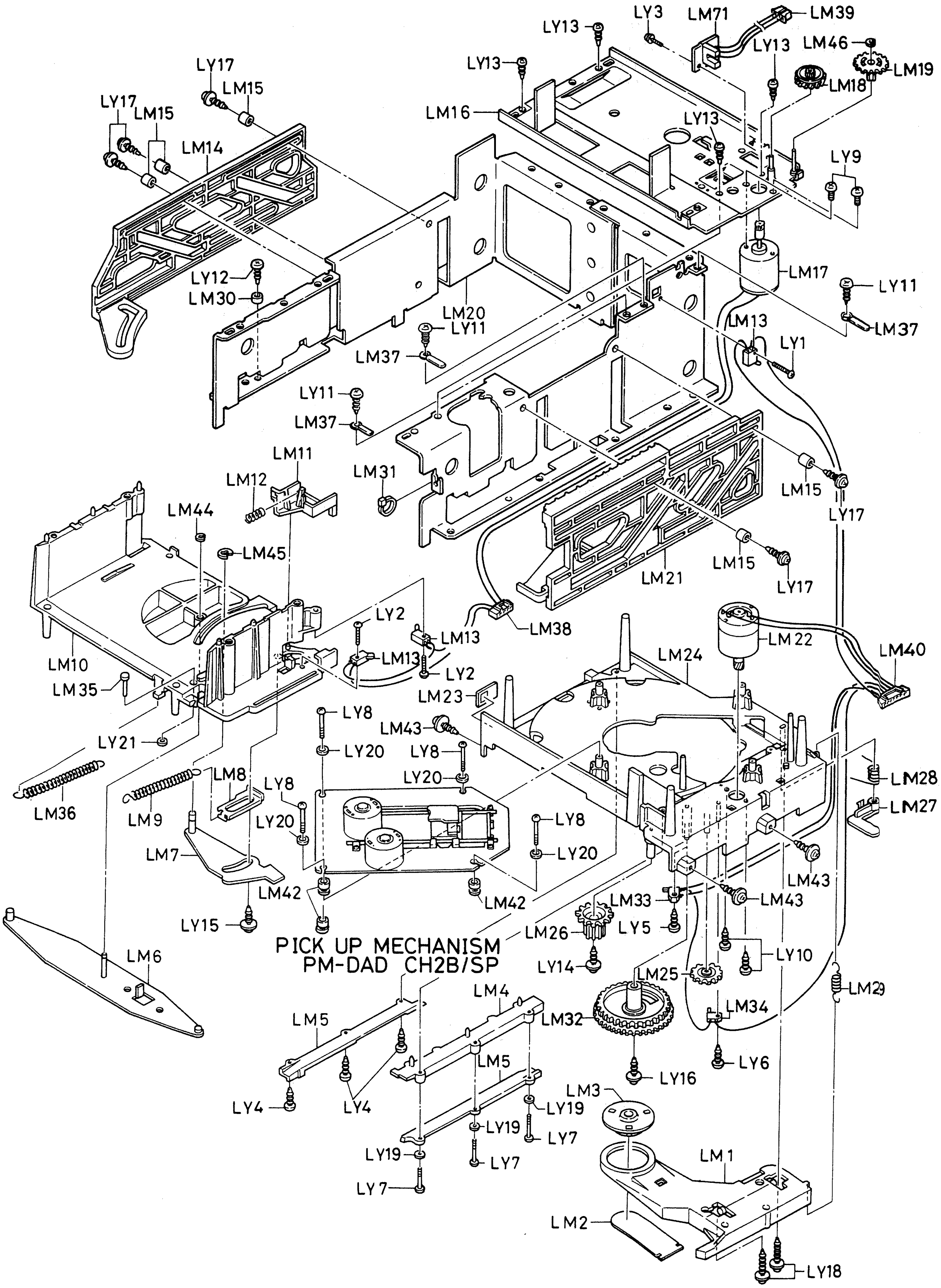
PARTS LIST

Ref. No.	Part No.	Description
D2502	407 013 1701	DIODE 1S1588
or	407 013 7109	DIODE 1S2473
or	407 005 4505	DIODE DS442X
D2510	408 016 2900	LED SLZ-255B-22-T1
IC251	410 146 1203	IC UPD75306GF-225-3B9
L2501	614 028 4256	FILTER,CHOKE,100UH
LCD21	614 238 0284	LCD(LIQUID CRYSTAL DISPLAY)
S2501	614 220 5563	SWITCH,TACT,DISC UP
S2502	614 220 5563	SWITCH,TACT,DISC DOWN
S2511	614 220 5556	SWITCH,TACT,OPEN/CLOSE
S2512	614 220 5563	SWITCH,TACT,PLAY/PAUSE
S2513	614 220 5563	SWITCH,TACT,STOP
S2514	614 220 5563	SWITCH,TACT,REPEAT
S2515	614 220 5563	SWITCH,TACT,CD MEMORY
S2516	614 220 5563	SWITCH,TACT,C.REC
S2517	614 220 5563	SWITCH,TACT,EDIT
S2518	614 220 5563	SWITCH,TACT,TIME/FADE
S2521	614 220 5563	SWITCH,TACT,CLOCK
S2522	614 220 5563	SWITCH,TACT,SLEEP
S2523	614 220 5563	SWITCH,TACT,WAKE UP
S2524	614 220 5563	SWITCH,TACT,TIMER
S2525	614 220 5563	SWITCH,TACT,PST DOWN
S2526	614 220 5563	SWITCH,TACT,FWD
S2527	614 220 5563	SWITCH,TACT,BACK
S2528	614 220 5563	SWITCH,TACT,RANDOM
S2531	614 220 5563	SWITCH,TACT,BAND
S2532	614 220 5563	SWITCH,TACT,CLEAR
S2533	614 220 5563	SWITCH,TACT,TUN MEMORY
S2534	614 220 5563	SWITCH,TACT,MODE
S2535	614 220 5563	SWITCH,TACT,PST UP
S2536	614 220 5563	SWITCH,TACT,TUN UP
S2537	614 220 5563	SWITCH,TACT,TUN DOWN
S2540	407 152 1303	PHOTO DIODE SPS-422-1, IR RECEIVER
or	614 237 8724	OPTO CONNECTOR,IR RECEIVER
X2501	614 215 5561	RESONATOR,CERAMIC,4.19MHZ

LED (LCD BACK LIGHT) P.C.BOARD ASSY

Ref. No.	Part No.	Description
74	614 239 9095	ASSY,PCB,LED
CN562	614 242 9488	ASSY,CONNECTOR-S,2P, FROM FRONT
D5551	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5552	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5553	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5554	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5555	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5556	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5557	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5558	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5559	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5560	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5561	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5562	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5563	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5564	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5565	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5566	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5567	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5568	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5569	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5570	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL

EXPLODED VIEW (CD LOADING MECHANISM)


LY13
LY3
LM71
LM39
LY13
LM46
LM19
LY17
LY13
LM18
LM15
LY17
LM15
LM16
LY13
LM14
LY9
LM17
LY11
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LM36
LM9
LY20
LY8
LM7
LY20
LM43
LM42
LM42
LM33
LM43
LY15
LM26
LY5
PICK UP MECHANISM
PM-DAD CH2B/SP
LM6
LY14
LY10
LM25
LM4
LM29
LM5
LM32
LM34
LM5
LY6
LY4
LY4
LY16
LM3
LY19
LY19
LY7
LM1
LY19
LY7
LY7
LM2
LY18

PARTS LIST (CD LOADING MECHANISM = PM-DAD CH2/SP)

LOADING MECHANISM (PM-DAD CH2L/SP)

Ref. No.	Part No.	Description
LM01	614 140 1393	LEVER,CHUCK
LM02	614 211 6654	SPRING PLATE,CHUCK PRESS
LM03	614 135 9342	PULLEY,CHUCK
LM04	614 108 2875	BRACKET,TRAY GUIDE
LM05	614 108 2110	BRACKET,TRAY BOTTOM
LM06	614 194 6214	ASSY,LEVER,SLIDE
LM07	614 194 6207	ASSY,LEVER,EJECT
LM08	614 198 1017	LEVER,HOLD
LM09	614 151 7117	SPRING COIL,LEVER RETURN
LM10	614 108 2868	BRACKET,MAGAZINE GUIDE
LM11	614 140 1423	LEVER,MAGAZINE LOCK
LM12	614 151 7124	SPRING COIL,LEVER
LM13	614 018 9223	SWITCH,MAGAZINE
or	614 018 9223	SWITCH,INITIAL
LM14	614 139 1045	SLIDE,SELECT,LEFT
LM15	614 127 8650	PIPE,SLIDE GUIDE
LM16	614 194 6184	ASSY,BRACKET,MAGAZINE TOP
LM17	614 194 6085	ASSY,COMMUTATE MOTOR,DISC SELECT
LM18	614 134 8926	GEAR,RELAY
LM19	614 134 8957	GEAR,SLIDE DRIVE
LM20	614 115 6705	CHASSIS,MAIN
LM21	614 139 1052	SLIDE,SELECT,RIGHT
LM22	614 194 6085	ASSY,COMMUTATE MOTOR,LOADING
LM23	614 151 8244	SPRING PLATE,CHASSIS
LM24	614 194 6191	ASSY,CHASSIS,LOADING
LM25	614 248 5934	GEAR,RELAY
LM26	614 134 8964	GEAR,TRAY DRIVE
LM27	614 140 0129	LEVER,TRAY LOCK
LM28	614 203 5993	SPRING WIRE,LEVER
LM29	614 151 7315	SPRING COIL,LEVER RETURN
LM30	614 200 3633	PIPE,SLIDE GUIDE
LM31	614 246 5271	FIXER,LEAD DRESS
LM32	614 134 8933	GEAR,CAM
LM33	614 024 1778	SWITCH,CHUCKING
LM34	614 024 1600	SWITCH,TRAY
LM35	614 145 9363	SHAFT,MAGAZINE ROLLER
LM36	614 209 2774	SPRING,TENS,LOADING MECHANISM.PICK UP
LM37	614 129 9136	LUG,LEAD DRESS
LM38	614 244 2562	ASSY,CONNECTOR-S,MAGAZINE SW LEAD
LM39	614 244 2579	ASSY,CONNECTOR-S,PHOTO SENSOR LEAD
LM40	614 244 2586	ASSY,CONNECTOR-S,SWITCH·MOTOR LEAD
LM41	614 125 6443	CUSHION,MOTOR LEAD FIX
LM42	614 205 1559	CUSHION,RUBBER,BASE MECHANISM FLOATING
LM43	412 005 2307	SCREW,SPECIAL,SLIDE FIX
LM44	412 022 6500	WASHER,SPECIAL,LEVER FIX
LM45	412 014 6501	WASHER,SPECIAL,SHAFT FIX
LM46	412 027 1906	WASHER,SPECIAL,GEAR FIX

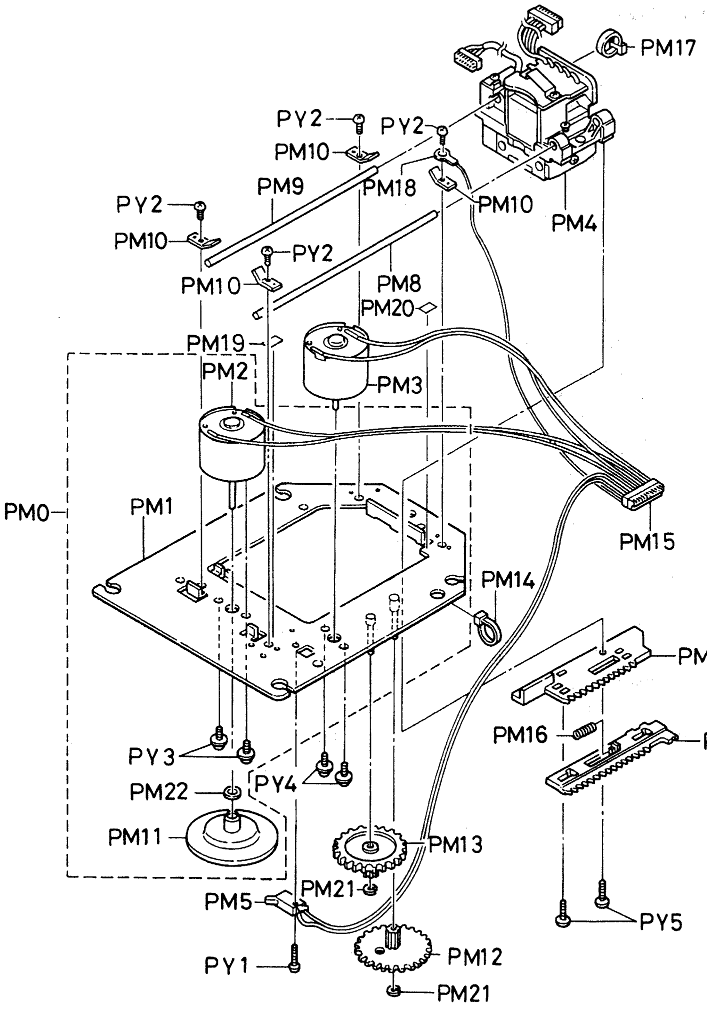
FIXING PARTS (LOADING MECHANISM)

Ref. No.	Part No.	Description
LY01	411 099 0503	SCR TPG PAN PCS 1.7X6,SW FIX
LY02	411 104 4205	SCR TPG PAN PCS 1.7X8,SW FIX
or	411 030 2801	SCR TPG PAN PCS 1.7X8,SW FIX
LY03	411 044 7205	SCR PAN+SW 2X4,PCB FIX
LY04	411 022 7807	SCR S-TPG PAN 2X6,BRACKET
LY05	411 022 8408	SCR S-TPG PAN 2X8,SW FIX
LY06	411 022 8408	SCR S-TPG PAN 2X8,SW FIX
LY07	411 119 8908	SCR S-TPG PAN 2X14,BRACKET FIX
LY08	411 119 8908	SCR S-TPG PAN 2X14,BASE MECHA FIXING
LY09	411 002 5908	SCR PAN 2.6X4,MOTOR FIX
LY10	411 003 8809	SCR PAN+SW 2.6X6,MOTOR FIX
LY11	411 001 4407	SCR S-TPG PAN 3X6,LUG FIXING
LY12	411 021 5705	SCR S-TPG BIN 3X6,PIPE FIX
LY13	411 021 6405	SCR S-TPG BIN 3X8,BRACKET FIX
LY14	411 020 9902	SCR S-TPG BRZ+FLG 3X8,GEAR FIX
LY15	411 020 9902	SCR S-TPG BRZ+FLG 3X8,LEVER FIX
LY16	411 020 9902	SCR S-TPG BRZ+FLG 3X8,GEAR FIX
LY17	411 020 9902	SCR S-TPG BRZ+FLG 3X8,SLIDE FIX
LY18	411 020 9100	SCR S-TPG BRZ+FLG 3X12,LEVER FIX
LY19	411 087 4704	WASHER V 2X6X0.4,BRACKET FIX
LY20	411 087 6005	WASHER V 2.6X7.5X0.5,BASE MECHA FIXING
LY21	411 015 7906	RING E 1.5,SHAFT FIX

SENSOR P.C.BOARD ASSY

Ref. No.	Part No.	Description
LM71	614 194 6368	ASSY,P.C BOARD,SENSOR
	614 002 4562	PHOTO INTERRUPTER,DISC SELECT SENSOR
	401 026 9600	CARBON 470 JA 1/6W

EXPLODED VIEW (CD PICKUP MECHANISM)



PARTS LIST (CD PICKUP MECHANISM = PM-DAD CH2/SP)

PICKUP MECHANISM (PM-DAD CH2B/SP)

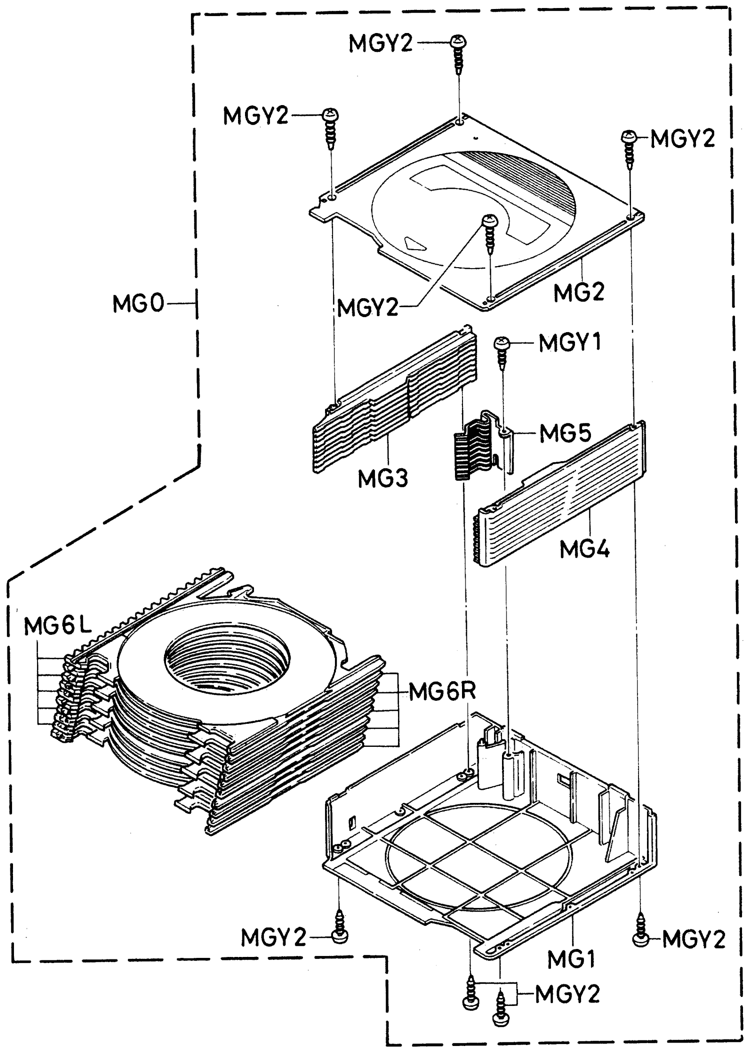
Ref. No.	Part No.	Description
PM00	614 222 3208	ASSY,CHASSIS,PICKUP
PM01	614 067 2756	ASSY,CHASSIS,BASE
PM02	614 045 2105	MOTOR,COMMUTATE,SPINDLE
PM03	614 045 2136	ASSY,MOTOR,COMMUTATE,SLED
PM04	614 227 9069	PICKUP,LASER
PM05	614 018 9223	SWITCH,LIMIT
PM06	614 134 8902	GEAR,PICKUP SLED,UPPER
PM07	614 134 8919	GEAR,PICKUP SLED,LOWER
PM08	614 145 9653	SHAFT,PICKUP RAIL1
PM09	614 145 9622	SHAFT,PICKUP RAIL2
or	614 230 0411	SHAFT,PICKUP RAIL2
PM10	614 207 2653	SPRING PLATE,RAIL FIX
PM11	614 073 7073	TURN TABLE,CHUCKING
PM12	614 134 8872	GEAR,PICK SLED,LARGE
PM13	614 134 8889	GEAR,PICKUP SLED,RELAY
PM14	614 246 5271	FIXER,LEAD DRESS
PM15	614 244 2555	ASSY,CONNECTOR-S,MOTOR & SW
PM16	614 151 7223	SPRING COIL,PICKUP GEAR
PM17	614 246 5271	FIXER,PICKUP LEAD DRESS
PM18	614 130 0535	LUG,MECHANISM EARTH

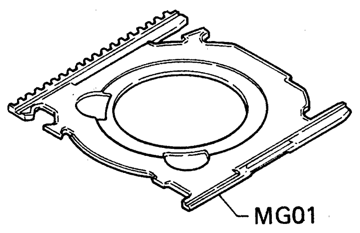
Ref. No.	Part No.	Description
PM19	614 222 1280	SHEET,PICK SKEW ADJUST1
PM20	614 222 1273	SHEET,PICK SKEW ADJUST2
PM21	412 013 0609	WASHER,SPECIAL,GEAR FIX
PM22	412 032 0208	WASHER,SPECIAL,ADHESIVE STOPPER

FIXING PARTS (PICKUP MECHANISM)

Ref. No.	Part No.	Description
PY01	411 099 0503	SCR TPG PAN PCS 1.7X6, SWITCH FIX
PY02	411 028 2806	SCR S-TPG PAN 2X3, SPRING PLATE FIX
PY03	411 044 7007	SCR PAN+SW 2X3, SPINDLE MOTOR FIX
PY04	411 044 7007	SCR PAN+SW 2X3, SLED MOTOR FIX
PY05	411 044 7502	SCR PAN+SW 2X5,GEAR FIX

EXPLODED VIEW (CD MAGAZINE = 12Cm & 8Cm)





PARTS LIST (CD MAGAZINE)

CD MAGAZINE (12Cm) PACKING

Ref. No.	Part No.	Description
	614 246 7701	INNER CARTON,MAGAZINE
	614 246 8944	INNER POLYE LAMINA COVER
	614 205 9395	NOTICE,PRECATION LABEL
	614 246 5035	NOTICE,DISC CAUTION
	614 202 1170	LABEL,INDEX

CD MAGAZINE (12Cm)

Ref. No.	Part No.	Description
MG0	614 246 8913	ASSY,TRAY,12CM
MG1	614 240 1194	ASSY,LID,TOP,CASE
MG2	614 240 1200	ASSY,LID,BOTTOM,CASE
MG3	614 203 2930	PANEL,SIDE,LEFT,CASE
MG4	614 203 2923	PANEL,SIDE,RIGHT,CASE
MG5	614 205 7438	PLATE,SPRING,CD TRAY ROCK
MG6L	614 202 7509	ASSY,TRAY,12CM,LEFT (5USED)
MG6R	614 202 7516	ASSY,TRAY,12CM,RIGHT (5USED)
MGY1	411 100 0201	SCR S-TPG BIN 2X8
MGY2	411 104 7008	SCR S-TPG BIN 2X5
	614 176 7758	INNER POLYE LAMINA COVER

CD MAGAZINE (8Cm)

Ref. No.	Part No.	Description
MG00	614 246 8937	ASSY,TRAY,8CM
MG01	614 202 7530	ASSY,TRAY,8CM
	614 176 2234	INNER POLYE COVER

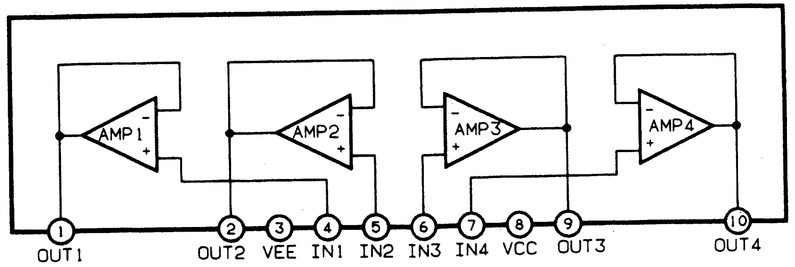
IC BLOCK DIAGRAM (CD)

IC101 LA9210M (Servo Signal Processor)

No.	PIN NAME	I/O	FUNCTION
1	NC		Non Connection
2	VEE		-5V
3	E	I	IV Convert Input (from Photo Diode E)
4	F	I	IV Convert Input (from Photo diode F)
5	FN	I	IV Converter Input
6	FO	O	IV Converter Output
7	TEAO	O	Tracking Error Amplifier Output
8	VREF2	I	Reference Voltage 2
9	VREF3	I	Reference Voltage 3
10	TES1	I	Test Input
11	ATSC	I	+ Input of Anti Shock Detect Amplifier
12	ATSC-	I	- Input of Anti Shock Detect Amplifier
13	TPA +	I	- Input of Tracking Pulse Amplifier
14	TPA-	I	+ Input of Tracking Pulse Amplifier
15	TPAO	O	Tracking Pulse Amplifier Output
16	TOFS	I	Input for Tracking Offset
17	THDS	I	Tracking Servo Hold Switch
18	TD +	I	Add the Track Jump Pulse
19	JPO	O	Track Jump Pulse Amplifier Output
20	SLEQ	I	Input for Sled Servo Equalizer
21	TDO	O	Tracking Actuator Coil Driver Output
22	FDO	O	Focus Actuator Coil Driver Output
23	FD-	I	Input for Focus Actuator Coil Driver
24	FSW	I	Focus Servo Switch
25	NC		Non Connection
26	FEAO	O	Focus Error Amplifier Output
27	FE +	I	+ Input of Focus Error Amplifier
28	FD +	I	+ Input of Focus Actuator Coil Driver
29	SPO	O	CLV Error Amplifier Output
30	SPO-	I	Input for Spindle Motor Driver
31	SPDO	O	Spindle Motor Driver Output
32	VEE		-5V
33	SLDO	O	Sled Motor Driver Output
34	SL-	I	- Input of Sled Motor Driver
35	SL +	I	+ Input of Sled Motor Driver
36	VCC		+5V
37	SLSW	I	Sled Servo Switch
38	DEFO	O	Defect Signal Output
39	2FREQ	I	Input for VCO
40	DRF	O	Focusing Servo ON : High Level

No.	PIN NAME	I/O	FUNCTION
41	NC		Non Connection
42	JP-	I	- Input of Track Jump Pulse Amplifier
43	JP +	I	+ Input of Track Jump Pulse Amplifier
44	THLD	I	Hold of Output Voltage of Tracking Servo
45	TGL	I	Tracking Gain Low
46	TOFF	I	Input For Off the Tracking Servo
47	TES	O	Tracking Error Signal
48	HFL	O	Detect Track Signal
49	FZD	O	Detect S Carve of Focus Error Signal
50	FOCS	I	Input For Off the Focus Servo
51	CLV-	I	- Input of CLV Error Amplifier
52	CLV +	I	+ Input of CLV Error Amplifier
53	SLCO	O	Slice Level Control Amplifier Output
54	$\overline{\text{EFMO}}$	I	$\overline{\text{EFMO}}$ (RF) Signal
55	AI	I	EFMO (RF) Signal
56	VDD		+5V
57	PDO	I	+ Input of VCO Control Amplifier
58	PDO-	I	- Input of VCO Control Amplifier
59	VCOC	I	VCO Control Amplifier Output
60	VCOO	O	VCO Output
61	LF1	I	Input of Low Pass Filter
62	CLK	I	Clock
63	LASER	I	Laser Control Signal
64	66/60	I	Select of DSP LC7866 / LC7860
65	NC		Non Connection
66	DF2	I	Input for Defect Pulse width Control
67	DF1	I	Input for Defect Pulse width Control
68	PH3	O	Defect Detect Timing
69	BH	I	Track Detect Timing
70	PH	I	Focus Detect Timing
71	GND		Ground
72	RF SUM	O	RF SUM Amplifier Output
73	RFS-	O	IV Converter Output
74	LDO	O	Laser Diode ON
75	LDS	I	Input of Auto Laser Power Control
76	LDC	I	Input of Auto Laser Power Control
77	VDD		+5V
78	FIN1	I	IV Convert Input (From Photo Diode A+C)
79	FIN2	I	IV Convert Input (From Photo Diode B+D)
80	VREF1	I	Reference Voltage 1

IC102 LA6524 (Dual Motor & Actuator Coil Driver)



IC103 µPD75517GF-114-3B9 (CD Micro Processor)

PIN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O
1		AN0	V_{SS} Hold	I
2	AV_{REF}	AV_{REF}	Input Terminal of Reference Voltage for A / D Converter	I
3	V_{DD}	V_{DD}	+5V	P
4	V_{DD}	V_{DD}	+5V	P
5	SW DAC	P113	Input Terminal of Selection Switch for DAC	I
6	SW PRE	P112	Input Terminal of ON / OFF Selection Switch for Pre-Mute	I
7	NC	P111	V_{SS} Hold	I
8	NC	P110	V_{SS} Hold	1
9	NC	P103	V_{SS} Hold	O
10	NC	P102	V_{SS} Hold	O
11	CLV GAIN	P101	Selection of CLV Gain	O
12	AMP SO	P100	Communication of Micro Processor for DECK · AMP Block (DATA)	O

IC BLOCK DIAGRAM (CD)

IC103 µPD75517GF-114-3B9 (CD Micro Processor)

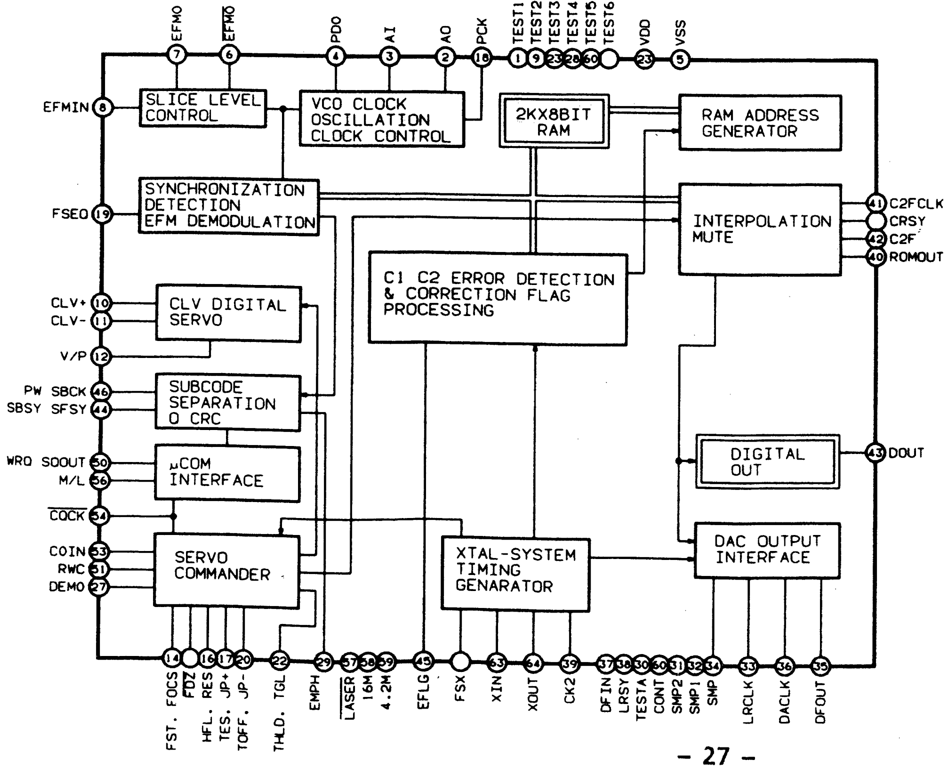
PIN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O
13	AMP SCK	P93	Communication of Micro Processor for DECK · AMP Block (CLOCK)	O
14	SUB RES	P92	Reset Output for Micro Processor of TUNER Display	O
15	SUB SO	P91	Communication of Micro Processor for TUNER Display (DATA)	O
16	SUB SCK	P90	Communication of Micro Processor for TUNER Display (CLOCK)	O
17	NC	SI1 / P83	V_{SS} Hold	I
18	NC	SO1 / P82	V_{SS} Hold	I
19	NC	SCK1 / P81	V_{SS} Hold	I
20	NC	PPO / P80	V_{SS} Hold	I
21	NC	KR7 / P73	V_{SS} Hold	I
22	NC	KR6 / P72	V_{SS} Hold	I
23	DUB IN	KR5 / P71	Input of Dubbing Signal	I
24	TA AF	KR4 / P70	Input of Function Signal for DECK	I
25	V CHK	KR3 / P63	Detection Signal of Stoppage Failure of Electricity	I
26	V DEC O	KR2 / P62	Detection Signal Output of Voltage Drop	O
27	V DEC I	KR1 / P61	Detection Signal Input of Voltage Drop	I
28	PRE MUTE	KR0 / P60	Output of Pre-Mute Signal when Key Input for TUNER	O
29	TRAYOUT	P53	Control Signal of Motor for Tray Drive	O
30	TRAYIN	P52	Control Signal of Motor for Tray Drive	O
31	MECUP	P51	Control Signal of Motor for Turntable Drive	O
32	MECDOW	P50	Control Signal of Motor for Turntable Drive	O
33	V_{SS}	V_{SS}	0V(GND)	P
34	ATT	P43	Inter Face for DAC (DATA)	O
35	SHIFT	P42	Inter Face for DAC (CLOCK)	O
36	LATCH	P41	Inter Face for DAC (LATCH)	O
37	CD MUTE	P40	Control Signal of Analogue Mute	O
38	P CONT	P33	Control Signal of Power Supply Circuit for CD	O
39	PULL UP	P32	Power Supply to Pull Up Resistors	O
40	DSP RES	P31	Reset Control Signal to DSP	O
41	M LED	P30	Drive Signal for Magazine Indicator LED	O
42	CLOSE	P23 / BUZ	Control Signal for Sled Motor	O
43	CLK OUT	P22 / PCL	Clock Signal for Adjustment	O
44	OPEN	P21	Control Signal for Sled Motor	O
45	RWC	P20 / PTOO	Inter Face for DSP (COMMAND LATCH)	O
46	DRF	P13 / TIO	Input Terminal of DRF Signal	I
47	AMP BUSY	P12 / INT2	Communication of Micro Processor for DECK · AMP Block (BUSY)	I
48	WRQ	P11 / INT1	Inter Face for DSP (SUBQ REQUEST)	I
49	IR	P10 / INT0	Data Signal from Remocon (INFRARED-RAY RECEIVER)	I
50	SQOUT	P03 / SIO	Inter Face for DSP (SUBQ DATA INPUT)	I
51	COIN	P02 / SOO	Inter Face for DSP (COMMAND DATA OUTPUT)	O
52	CQCK	P01 / SCK0	Inter Face for DSP (CLOCK)	O
53	SUB BUSY	P00 / INT4	Communication of Micro Processor for TUNER Display (BUSY)	I
54	V_{SS}	V_{SS}	0V(GND)	P
55	XT1	XT1	V_{SS} Hold	I
56	XT2	XT2	Open	O
57	NC		Not Connection	
58	X1	X1	X'tal Output (4.19MHz)	I
59	X2	X2	X'tal Input (4.19MHz)	O
60	RESET	RESET	System Reset	I
61	SW HI AC	P143	Input Terminal of High-Speed Access ON / OFF Selection Switch	I
62	SW BAND	P142	Input Terminal of Key Function Selection Switch for Remocon	I
63	SW PST	P141	Input Terminal of Key Function Selection Switch for Remocon	I
64		P140	V_{SS} Hold	I
65	CHKEND	P133	Detection Signal Input of Chucking Completion Switch	I
66	STREND	P132	Detection Signal Input of Tray Storage Completion Switch	I
67	PHOTO	P131	Detection Signal Input of Photo Sensor (Detect Turntable Position)	I
68		P130	V_{SS} Hold	
69	TEN	P123	Detection Signal Input of 10 / 1 Magazine Switch	I
70	PACK	P122	Detection Signal Input of ON / OFF Magazine Switch	I
71	MSHOKI	P121	Detection Signal Input of Mechanism Initialization Position Switch	I
72	LIMIT	P120	Detection Signal Input of Limit Switch for Pickup Mechanism	I
73	AV_{SS}	AV_{SS}	Ground Electric Potential of Reference Voltage for A / D Converter	I
74	KEY3	AN7 / P153	Key Input	I
75	KEY2	AN6 / P152	Key Input	I
76	KEY1	AN5 / P151	Key Input	I
77	KEY0	AN4 / P150	Key Input	I
78		AN3	V_{SS} Hold	I
79		AN2	V_{SS} Hold	I
80		AN1	V_{SS} Hold	I

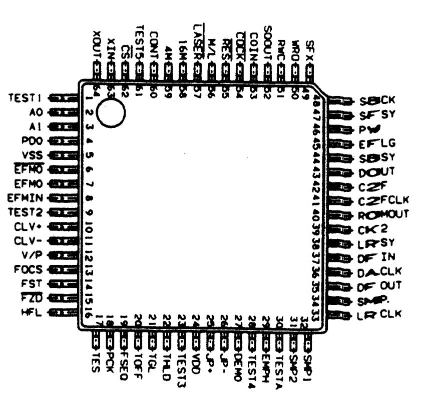
IC BLOCK DIAGRAM (CD)

IC104 LC7866E (Digital Signal Processor)

No	PIN NAME	I/O	DESCRIPTION
1	TEST1	I	For TEST. Normal time is non connection.
2 3 4	AO AI PDO	O I O	Input from VCO output in LA9210 .(8.6436MHz) Phase comparison output of VCO and EFM signal.
5	VSS		GND
6	$\overline{\text{EFMO}}$	O	Negative output through amplitude limiter. Antiphase of $\overline{\text{EFMO}}$. This signal use SLICE LEVEL CONTROL.
7	EFMO	O	Positive output through amplitude limiter. Antiphase of EFMO. This signal use SLICE LEVEL CONTROL.
8	EFMIN	I	Inputting HF signal of 1~2$V_{p.p}$. This signal use SLICE LEVEL CONTROL.
9	TEST2	I	For TEST. Normal time is non connection.
10	CLV⁺	O	Output for DISC MOTOR CONTROL.
11	CLV⁻	O	Output for DISC MOTOR CONTROL.
12	V / P	O	CLV rough Servo time : Output "H" Phase control time : Output"L"
13 14 15	FOCS FST $\overline{\text{FZD}}$	O O I	Output "H" : Lens pull up with slowly than stop the Focus Servo. If FZD generate, It reset output of FOCS. For lead-in of Focus
16	HFL	I	Comply with command of track jump, it oscillate kick Pulse, JP⁺ & JP⁻. It jump the prescribed number of track (1,4,16,64).
17	TES	I	Comply with command of track jump, it oscillate kick Pulse, JP⁺ & JP⁻. It jump the prescribed number of track (1,4,16,64).
18	PCK	O	PCK Monitor (4.3218MHz)
19	FSEQ	O	SYNC (FS of truth) detected from EFM signal = SYNC of counter : "H" (Latch Output during in 1 frame)
20 21 22	TOFF TGL THLD	O O O	Comply with command of track jump, it oscillate kick Pulse, JP⁺ & JP⁻. It jump the prescribed number of track (1,4,16,64).
23	TEST3	I	For TEST. Normal time is non connection.
24	VDD		+5V
25 26	JP⁺ JP⁻	O O	Comply with command of track jump, it oscillate kick Pulse, JP⁺ & JP⁻. It jump the prescribed number of track (1,4,16,64).
27	DEMO	I	For adjustment of production process. Sound on function.
28	TEST4	I	For TEST. Normal time is non connection.
29	EMPH	O	Output is "H" time, it need de-emphasis
30	TESTA	I	For TEST. Normal time is "H".

No	PIN NAME	I/O	DESCRIPTION
31 32	SMP2 SMP1	O O	Output of signal to DAC, Signal of Latch & L / R select, Signal for Sampling Hold
33 34	LRCLK SMP	O O	Output of signal to DAC, Signal of Latch & L / R select, Signal for Sampling Hold
35	DFOUT	O	Output of signal to DAC, Signal of Latch & L / R select, Signal for Sampling Hold
36	DACLK	O	Output of signal to DAC, Signal of Latch & L / R select, Signal for Sampling Hold
37	TESTB	O	For TEST. Normal time is non connection.
38	TESTC	O	For TEST. Normal time is non connection.
39	CK2	O	For output of signal that Comply with CD-ROM
40	ROMOUT	O	For output of signal that Comply with CD-ROM
41	C2FLCK	O	For output of signal that Comply with CD-ROM
42	C2F	O	For output of signal that Comply with CD-ROM
43	DOUT	O	Output of DIGITAL OUT
44	SBSY	O	Synchronizing signal of sub-code block.
45	EFLG	O	For correction monitor of C1, C2, single, double.
46 47 48	PW SFSY SBCK	O O I	SFSY is Synchronizing signal of sub-code & frame. Clock of eighth send to SBCK then read out the sub-code of P, Q, R, S, T, U, V, & W.
49	FSX	O	Output of Synchronizing signal (7.35KHz)
50 51 52 53 54	WRQ RWC SQOUT COIN $\overline{\text{CQCK}}$	O I O I I	Data sub-code Q pass the CRC check then WRQ do "H". It detect at external, Data read out from SQOUT by send the CQCK. RWC set the "H" by Micro Processor then it let command by send with Synchronizing $\overline{\text{CQCK}}$ command data.
55	$\overline{\text{RES}}$	I	Turn on the Power Supply time : Once "L"
56	$\overline{\text{M / L}}$	I	Data of SQOUT want at the LBS first time : M / L set the "L".
57	LASER	O	This output can control at Serial Control from Micro Processor
58	16M	O	16M Output (16.9344MHz)
59	4M	O	4M Output (4.2336MHz)
60	CONT	O	This output can control at Serial Control from Micro Processor
61	TEST5	I	For TEST. Normal time is non connection.
62	CS	I	Chip select Terminal. This terminal "L" : LC7866 is active (Internal Resistor : Pull Down)
63	XIN	I	Connection Terminal of crystal oscillation (16.9344MHz)
64	XOUT	O	Connection Terminal of crystal oscillation (16.9344MHz)


EFMO
EFMO
PDO
AI
AO
PCK
TEST1
TEST2
TEST3
TEST4
TEST5
TEST6
VDD
VSS
7
6
4
3
2
18
1
9
23
28
60
23
5
EFMIN 8
FSEQ 19
CLV+ 10
CLV- 11
V/P 12
PW SBCK 46
SBSY SFSY 44
WRQ SQOUT 50
M/L 56
CQCK 54
COIN 53
RWC 51
DEMO 27
SLICE LEVEL CONTROL
VCO CLOCK OSCILLATION CLOCK CONTROL
2KX8BIT RAM
RAM ADDRESS GENERATOR
SYNCHRONIZATION DETECTION EFM DEMODULATION
INTERPOLATION MUTE
C1 C2 ERROR DETECTION & CORRECTION FLAG PROCESSING
CLV DIGITAL SERVO
SUBCODE SEPARATION Q CRC
µCOM INTERFACE
SERVO COMMANDER
XTAL-SYSTEM TIMING GENARATOR
DIGITAL OUT
DAC OUTPUT INTERFACE
41 C2FCLK
CRSY
42 C2F
40 ROMOUT
43 DOUT
14 16 17 20 22 29 57 58 59 45 63 64 39 37 38 30 60 31 32 34 33 36 35
FST. FOCS
FDZ
HFL. RES
TES. JP+
TOFF. JP-
THLD. TGL
EMPH
LASER
16M
4.2M
EFLG
FSX
XIN
XOUT
CK2
DFIN
LRSY
TESTA
CONT
SMP2
SMP1
SMP
LRCLK
DACLK
DFOUT

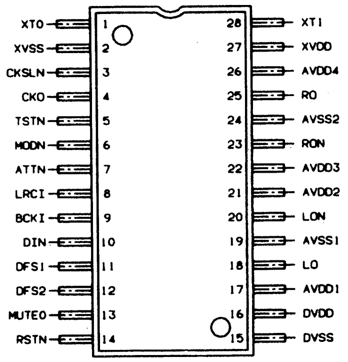

TEST1
AO
AI
PDO
VSS
EFMO
EFMO
EFMIN
TEST2
CLV+
CLV-
V/P
FOCS
FST
FZD
HFL
SBCK
SFSY
PW
EFLG
SBSY
DOUT
C2F
C2FCLK
ROMOUT
CK2
LRSY
DF IN
DACLK
DF OUT
SMP
LRCLK

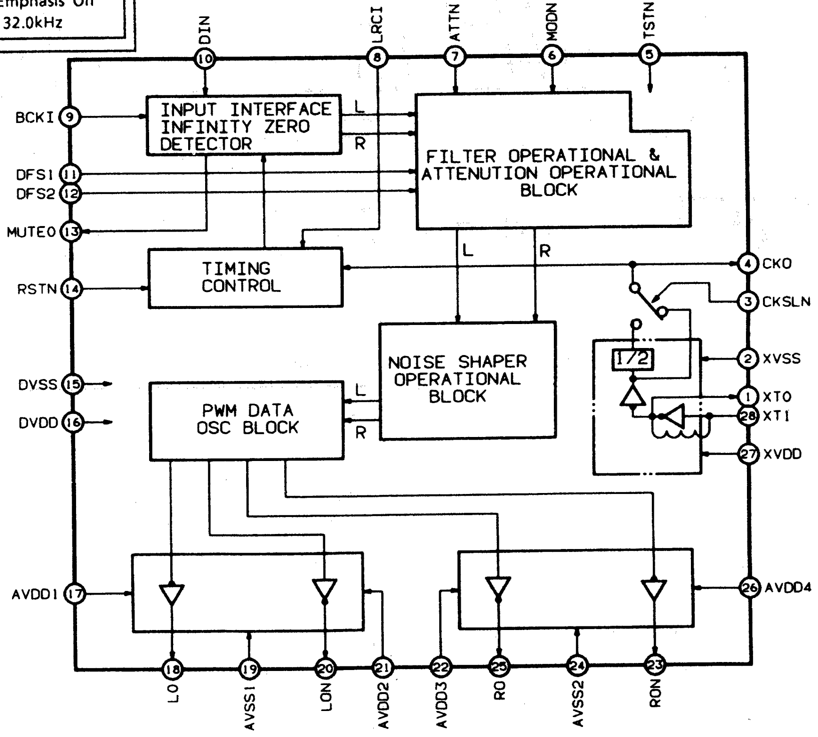
IC BLOCK DIAGRAM (CD)

IC105 SM5870DS (D / A Converter)

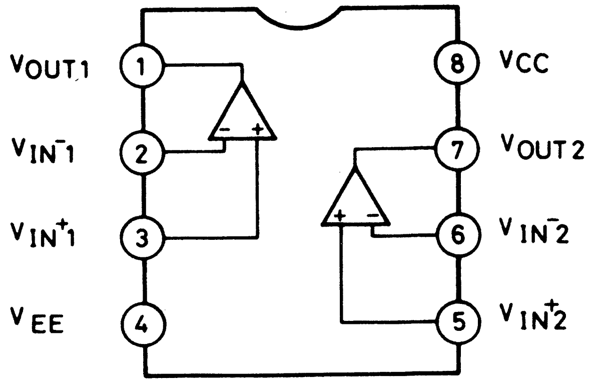
<table>
<tr><th>No.</th><th>PIN NAME</th><th>I/O</th><th>FUNCTION</th></tr>
<tr><td>1</td><td>XTO</td><td>O</td><td>Output Terminal of Oscillation</td></tr>
<tr><td>2</td><td>XVSS</td><td></td><td>GND Terminal of Crystal Route (0V)</td></tr>
<tr><td>3</td><td>CKSLN</td><td>I</td><td>Frequency Select of XTI, CKO</td></tr>
<tr><td>4</td><td>CKO</td><td>O</td><td>Oscillation Part, Output of Clock</td></tr>
<tr><td>5</td><td>TSTN</td><td>I</td><td>Test Terminal H = Normal, L = Test Mode</td></tr>
<tr><td>6
7</td><td>NODN
ATTN</td><td>I
I</td><td><table>
<tr><td rowspan="2">ATTN</td><td></td><td colspan="2">MODN</td></tr>
<tr><td></td><td>H</td><td>L</td></tr>
<tr><td></td><td>H</td><td>Release</td><td rowspan="2">Soft Mute
Hold</td></tr>
<tr><td></td><td>L</td><td>Soft Mute</td></tr>
</table></td></tr>
<tr><td>8</td><td>LRCI</td><td>I</td><td>Sample rate (fs) Clock of Input Data
H = L-ch L = R-ch</td></tr>
<tr><td>10</td><td>DIN</td><td>I</td><td>Bit Clock of Input Data</td></tr>
<tr><td>11
12</td><td>DFS1
DFS2</td><td>I
I</td><td><table>
<tr><td rowspan="2">DSF2</td><td></td><td colspan="2">DSF1</td></tr>
<tr><td></td><td>L</td><td>H</td></tr>
<tr><td></td><td>L</td><td>De-Emphasis On 44.1kHz</td><td>De-Emphasis Off</td></tr>
<tr><td></td><td>H</td><td>De-Emphasis On 48.0kHz</td><td>De-Emphasis On 32.0kHz</td></tr>
</table></td></tr>
</table>

No.	PIN NAME	I/O	FUNCTION
13	MOTEO	O	Output of nfinity Zero Detector
14	RSTN	I	System Reset H = Normal, L = Reset
15	DVSS		Digital GND Terminal (0V)
16	DVDD		Digital VDD Terminal (5V)
17	AVDD1		Analog VDD Terminal 1 (5V)
18	LO	O	PWM Output of L-channel (+)
19	AVSS1		Analog GND Terminal 1 (0V)
20	LON	O	PWM Output of L-channel (-)
21	AVDD2		Analog VDD Terminal 2 (5V)
22	AVDD3		Analog VDD Terminal 3 (5V)
23	RON	O	PWM Output of R-channel (-)
24	AVSS2		Analog GND Terminal 2 (0V)
25	RO	O	PWM Output of R-channel (+)
26	AVDD		Analog VDD Terminal 4 (5V)
27	XVDD		VDD Terminal of Crystal Route (5V)
28	XTI	I	Input Terminal of Oscillation

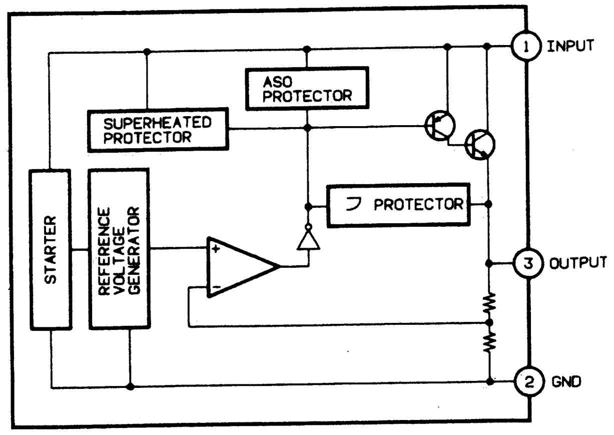

XTO 1
XVSS 2
CKSLN 3
CKO 4
TSTN 5
MODN 6
ATTN 7
LRCI 8
BCKI 9
DIN 10
DFS1 11
DFS2 12
MUTEO 13
RSTN 14
28 XTI
27 XVDD
26 AVDD4
25 RO
24 AVSS2
23 RON
22 AVDD3
21 AVDD2
20 LON
19 AVSS1
18 LO
17 AVDD1
16 DVDD
15 DVSS


DIN
LRCI
ATTN
MODN
TSTN
BCKI
DFS1
DFS2
MUTEO
RSTN
DVSS
DVDD
AVDD1
INPUT INTERFACE INFINITY ZERO DETECTOR
L
R
FILTER OPERATIONAL & ATTENUTION OPERATIONAL BLOCK
TIMING CONTROL
NOISE SHAPER OPERATIONAL BLOCK
PWM DATA OSC BLOCK
1/2
CKO
CKSLN
XVSS
XTO
XTI
XVDD
AVDD4
LO
AVSS1
LON
AVDD2
AVDD3
RO
AVSS2
RON

IC106 XRA15218F (Dual Operational Amplifier)

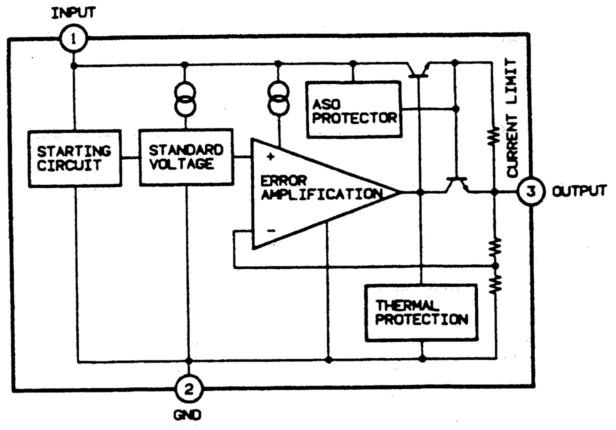

VOUT1 1
VIN-1 2
VIN+1 3
VEE 4
8 VCC
7 VOUT2
6 VIN-2
5 VIN+2

IC107 M5278D05 (3-Terminal Voltage Regulator)

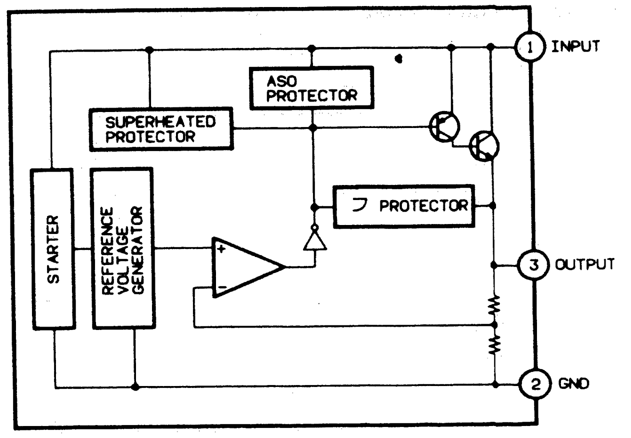

INPUT
ASO PROTECTOR
SUPERHEATED PROTECTOR
STARTER
REFERENCE VOLTAGE GENERATOR
PROTECTOR
OUTPUT
GND

IC BLOCK DIAGRAM (CD & TUNER)

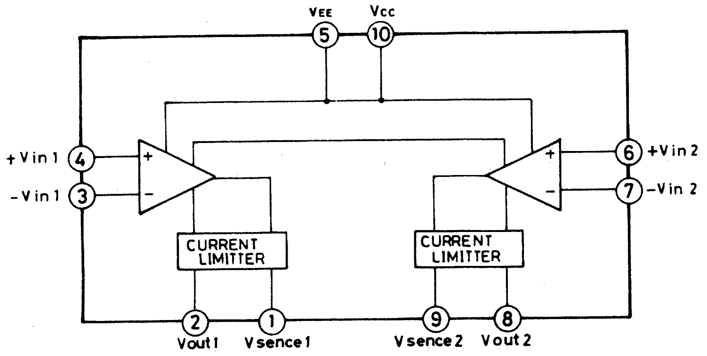
IC108 NJM79L05 (3-Terminal Voltage Regulator)


INPUT
STARTING CIRCUIT
STANDARD VOLTAGE
ASO PROTECTOR
ERROR AMPLIFICATION
CURRENT LIMIT
OUTPUT
THERMAL PROTECTION
GND

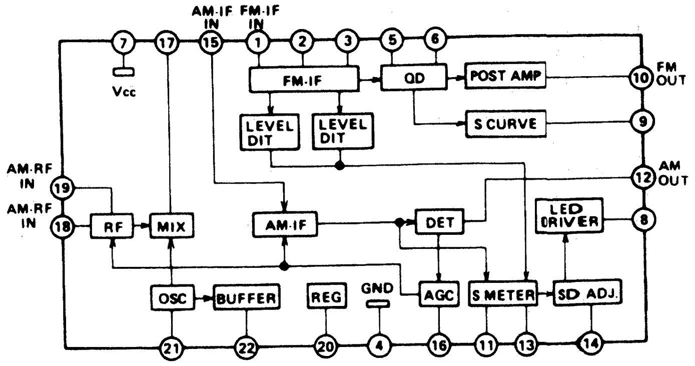
IC109 NJM78L05 (3-Terminal Voltage Regulator)


INPUT
ASO PROTECTOR
SUPERHEATED PROTECTOR
STARTER
REFERENCE VOLTAGE GENERATOR
PROTECTOR
OUTPUT
GND

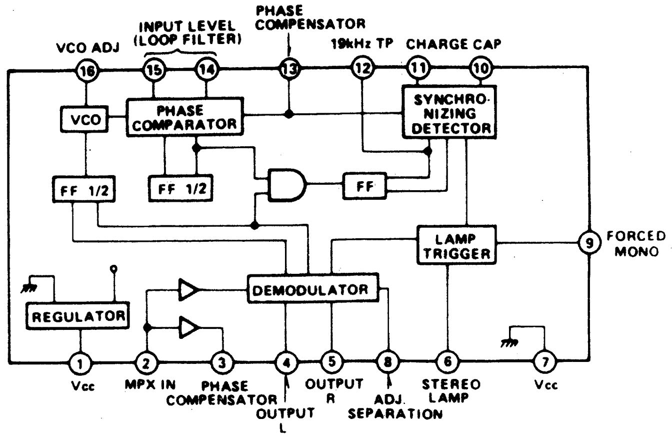
IC111 LA6510 (Loading · DISC Select Motor Driver)


VEE
Vcc
+Vin1
-Vin1
+Vin2
-Vin2
CURRENT LIMITTER
CURRENT LIMITTER
Vout1
Vsence1
Vsence2
Vout2

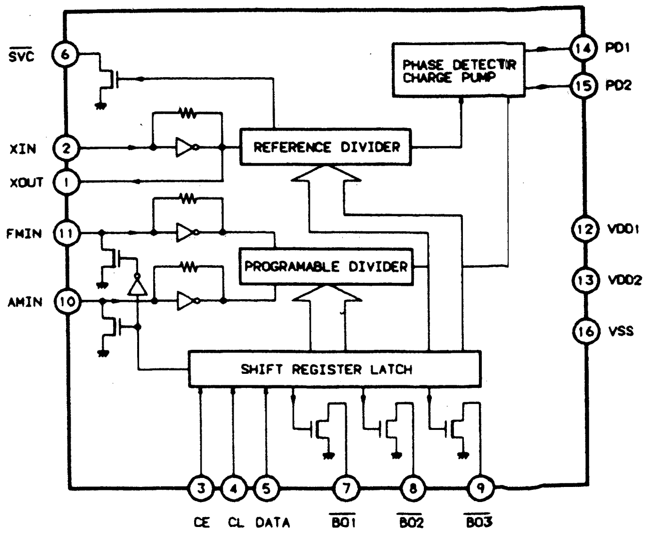
IC201 LA2165 (Tuner IF System)


AM-IF IN
FM-IF IN
Vcc
FM-IF
QD
POST AMP
FM OUT
LEVEL DIT
LEVEL DIT
S CURVE
AM-RF IN
AM-RF IN
AM OUT
RF
MIX
AM-IF
DET
LED DRIVER
OSC
BUFFER
REG
GND
AGC
S METER
SD ADJ

IC202 LA3361 (FM PLL MPX. Stereo Demodulator)


PHASE COMPENSATOR
INPUT LEVEL (LOOP FILTER)
VCO ADJ
19kHz TP
CHARGE CAP
VCO
PHASE COMPARATOR
SYNCHRO-NIZING DETECTOR
FF 1/2
FF 1/2
FF
LAMP TRIGGER
FORCED MONO
REGULATOR
DEMODULATOR
Vcc
MPX IN
PHASE COMPENSATOR
OUTPUT L
OUTPUT R
ADJ. SEPARATION
STEREO LAMP
Vcc

IC203 LM7001 (PLL Frequency Synthesizer)


SVC
XIN
XOUT
FMIN
AMIN
PHASE DETECTR CHARGE PUMP
PD1
PD2
REFERENCE DIVIDER
PROGRAMABLE DIVIDER
VDD1
VDD2
VSS
SHIFT REGISTER LATCH
CE
CL
DATA
BO1
BO2
BO3

IC BLOCK DIAGRAM (FRONT)

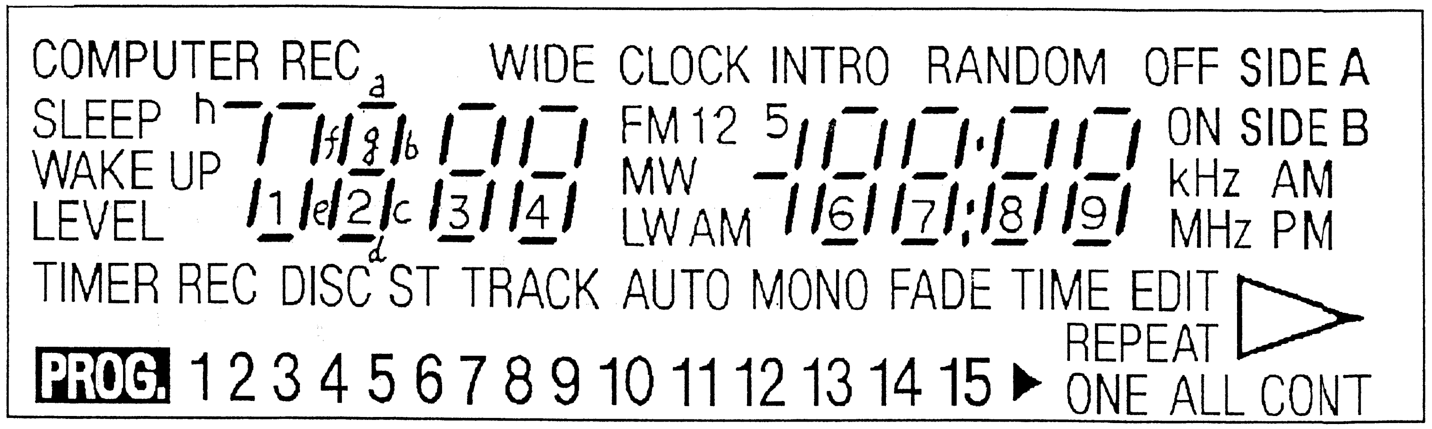
IC251 µPD75306GF-225-3B9 (Tuner & LCD Driveing Micro Processor)

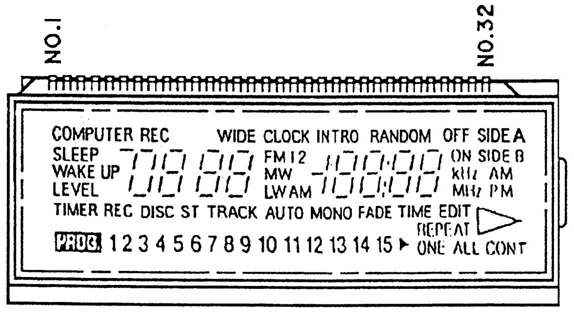
PIN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O	CONNECT
1	SEG12	S12	Segment of Liquid Crystal Display		LCD
2	SEG13	S13	Segment of Liquid Crystal Display		LCD
3	SEG14	S14	Segment of Liquid Crystal Display		LCD
4	SEG15	S15	Segment of Liquid Crystal Display		LCD
5	SEG16	S16	Segment of Liquid Crystal Display		LCD
6	SEG17	S17	Segment of Liquid Crystal Display		LCD
7	SEG18	S18	Segment of Liquid Crystal Display		LCD
8	SEG19	S19	Segment of Liquid Crystal Display		LCD
9	SEG20	S20	Segment of Liquid Crystal Display		LCD
10	SEG21	S21	Segment of Liquid Crystal Display		LCD
11	SEG22	S22	Segment of Liquid Crystal Display		LCD
12	SEG23	S23	Segment of Liquid Crystal Display		LCD
13	SEG24	S24 / BP0	Segment of Liquid Crystal Display		LCD
14	SEG25	S25 / BP1	Segment of Liquid Crystal Display		LCD
15	SEG26	S26 / BP2	Segment of Liquid Crystal Display		LCD
16	SEG27	S27 / BP3	Segment of Liquid Crystal Display		LCD
17	AUTO	S28 / BP4	Auto Tuning Signal ACTIVE : HIGH LEVEL	O	TUNER
18	NC	S29 / BP5	Not Used (Open)	O	OPEN
19	NC	S30 / BP6	Not Used (Open)	O	OPEN
20	NC	S31 / BP7	Not Used (Open)	O	OPEN
21	COM 0	COM0	Common of Liquid Crystal Display		LCD
22	COM 1	COM1	Common of Liquid Crystal Display		LCD
23	COM 2	COM2	Common of Liquid Crystal Display		LCD
24	COM 3	COM3	Common of Liquid Crystal Display		LCD
25	BIAS	BIAS	Bias of Liquid Crystal Display		
26	VLC0	V_{LC0}	Power Supply for Drive of Liquid Crystal Display		
27	VLC1	V_{LC1}	Power Supply for Drive of Liquid Crystal Display		
28	VLC2	V_{LC2}	Power Supply for Drive of Liquid Crystal Display		
29	STEP	P40	AM Step Selection 9kHz (V_{DD}) / 10kHz (V_{SS})	I	TUNER
30	ST	P41	ST Signal ACTIVE : LOW LEVEL	I	TUNER
31	SD	P42	SD Signal ACTIVE : LOW LEVEL	I	TUNER
32	NC	P43	Not Used (Ground)	I	V_{SS}
33	VSS	V_{SS}	Ground		
34	CE (S)	P50	Data Signal from LM7001 (For S Series)	O	TUNER
35	CLK (S)	P51	Data Signal from LM7001 (For S Series)	O	TUNER
36	DO (S)	P52	Data Signal from LM7001 (For S Series)	O	TUNER
37	MONO (S)	P53	Compulsion Monaural (For S Series) ACTIVE : HIGH LEVEL	O	TUNER
38	NC	P00 / INT4	Not Used (Ground)	I	V_{SS}
39	SCK	P01 / SCK	Clock Signal In from Main Micro Processor (µPD65117)	I	MAIN µCON
40	NC	P02 / SO / SB0	Not Used (Ground)		V_{SS}
41	SI	P03 / SI / SB1	Data In from Main Micro Processor (µPD65117)	I	MAIN µCON
42	NC	P10 / INT0	Not Used (Ground)	I	V_{SS}
43	NC	P11 / INT1	Not Used (Ground)	I	V_{SS}
44	NC	P12 / INT2	Not Used (Ground)	I	V_{SS}
45	NC	P13 / T10	Not Used (Ground)	I	V_{SS}
46	WIDE	P20 / PT100	Select Signal for AM Signal Type Wide (HIGH) / Narrow (LOW)	O	TUNER
47	PCON (S)	P21	Tuner Power Signal (For S Series) ACTIVE : HIGH LEVEL	O	TUNER
48	MUTE	P22 / PCL	Tuner Mute Signal ACTIVE : HIGH LEVEL	O	TUNER
49	BUSY	P23 / BUZ	Busy Signal Out to Main Micro Processor (µPD65117)	O	MAIN µCON
49	BUSY	P23 / BUZ	Busy Signal Out to Main Micro Processor (µPD65117)	O	MAIN µCON
50	S0	P30 / LCDCL	Initial Set for User = Country (Open or Ground)	I	
51	S1	P31 / SYNC	Initial Set for User = Country (Open or Ground)	I	
52	S2	P32	Initial Set for User = Country (Open or Ground)	I	
53	S3 (FM MUTE)	P33	Select Signal for FM Auto Mute SET (Open) / NOT (V_{SS})	I	
54	VDD	V_{DD}	Power Supply +5V		V_{DD}
55	NC	XT1	Not Used (Ground) OSC X'tal Terminal for Main Clock	I	V_{SS}
56	NC	XT2	Not Used (Open) OSC X'tal Terminal for Main Clock	O	
57	NC	NC	Non Connection		
58	X1	XI	X'tal In (4.194304 MHz)	I	
59	X2	XO	X'tal Out (4.194304 MHz)	O	
60	S4 (12H / 24H)	P60 / KR0	Select Signal for CLOCK 24H (Open) / 12H (V_{SS})	I	
61	S5 (AM IF)	P61 / KR1	Select Signal for AM IF SET (Open) / NOT (V_{SS})	I	TUNER
62	S6 (D / S)	P62 / KR2	Select Signal for D & S Series SET (Open) / NOT (V_{SS})	I	
48	MUTE	P22 / PCL	Tuner Mute Signal ACTIVE : HIGH LEVEL	O	TUNER
63	MONO (D)	P63 / KR3	Compulsion Monaural (For D Series) ACTIVE : HIGH LEVEL	O	TUNER
64	DO (D)	P70 / KR4	Data Signal from LM7001 (For D Series)	O	TUNER
65	CLK (D)	P71 / KR5	Data Signal from LM7001 (For D Series)	O	TUNER

IC BLOCK DIAGRAM (FRONT)

PIN No.	SIGNAL NAME	PORT NAME	DESCRIPTION	I/O	CONNECT
66	CE (D)	P72 / KR6	Data Signal from LM7001 (For D Series)	O	TUNER
67	PCON (D)	P73 / KR7	Tuner Power Signal (For D Series) ACTIVE : HIGH LEVEL	O	TUNER
68	RESET	RESET	System Reset Signal		RESET CIRCUIT
69	SEG0	S0	Segment of Liquid Crystal Display		LCD
70	SEG1	S1	Segment of Liquid Crystal Display		LCD
71	SEG2	S2	Segment of Liquid Crystal Display		LCD
72	SEG3	S3	Segment of Liquid Crystal Display		LCD
73	SEG4	S4	Segment of Liquid Crystal Display		LCD
74	SEG5	S5	Segment of Liquid Crystal Display		LCD
75	SEG6	S6	Segment of Liquid Crystal Display		LCD
76	SEG7	S7	Segment of Liquid Crystal Display		LCD
77	SEG8	S8	Segment of Liquid Crystal Display		LCD
78	SEG9	S9	Segment of Liquid Crystal Display		LCD
79	SEG10	S10	Segment of Liquid Crystal Display		LCD
80	SEG11	S11	Segment of Liquid Crystal Display		LCD

LCD


COMPUTER REC
WIDE CLOCK INTRO RANDOM OFF SIDE A
SLEEP
WAKE UP
LEVEL
h
a
f
g
b
e
c
d
1
2
3
4
FM 1 2
5
MW
LW AM
6
7
8
9
ON SIDE B
kHz AM
MHz PM
TIMER REC DISC ST TRACK AUTO MONO FADE TIME EDIT
REPEAT
PROG. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 ▶ ONE ALL CONT



NO.	COM. 1	COM. 2	COM. 3	COM. 4
1	CONT	ALL	ONE	REPEAT
2	13	14	15	▶
3	12	11	10	9
4	5	6	7	8
5	4	3	2	1
6	SLEEP	WAKE UP	TIMER	REC
7	COMP. REC	LEVEL	DISC	PROG.
8	1h	1a.e.f	1b.c	1d
9	2f	2g	2e	2d
10	2a	2b	2c	ST
11	3f	3g	3e	3d
12	3a	3b	3c	TRACK
13	4f	4g	4e	4d
14	4a	4b	4c	AUTO
15	WIDE	FM	MW	LW
16	CLOCK	1 (FM)	2 (FM)	AM

NO.	COM. 1	COM. 2	COM. 3	COM. 4
17	INTRO	5b.c	5g	
18	6f	6g	6e	6d
19	6a	6b	6c	MONO
20	7f	7g	7e	7d
21	7a	7b	7c	FADE
22	RANDM	:		TIME
23	8f	8g	8e	8d
24	8a	8b	8c	EDIT
25	9f	9g	9e	9d
26	9a	9b	9c	▷
27	OFF	ON	KHz	MHz
28	DISE A	DISE B	AM	PM
29	COM. 1			
30		COM. 2		
31			COM. 3	
32				COM. 4

VOLTAGES OF IC (CD)

(Unit : Volt)

IC101 LA9210M

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop Mode	0	-5.0	0	0	0	0	0	0	0	2.59	2.54	2.55	0	0	0	0
Play Mode	0	-5.0	Fluc	Fluc	Fluc	Fluc	Fluc	0	0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop Mode	0	0	0	0	Fluc	Fluc	0	0	0	0	Fluc	2.43	0	0	0	-5.0
Play Mode	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	-5.0
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop Mode	0	0	0	5.0	4.39	0	0	0	0	0	0	0	4.97	4.92	4.07	4.07
Play Mode	Fluc	Fluc	Fluc	5.0	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop Mode	4.07	0	0	0	2.52	2.49	2.50	5.0	2.51	2.51	2.54	3.92	2.60	2.33	4.92	0
Play Mode	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	5.0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	0
Measuring Pin No.	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Stop Mode	0	0.4	-0.4	0	-0.5	-0.5	0	-0.5	0	4.82	-4.97	4.83	5.0	0	0	0
Play Mode	0	Fluc	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	5.0	Fluc	Fluc	0

IC102 LA6524

Fluc : Fluctuation

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10
Play Mode	Fluc	Fluc	-11	Fluc	Fluc	Fluc	Fluc	10	Fluc	Fluc

IC103 μPD75517GF-114-3B9

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop Mode	0	4.9	5.0	5.0	0	0	0	0	2.2	2.2	2.2	2.1	4.9	2.1	0	4.9
Play Mode	0	4.9	5.0	5.0	0	0	0	0	2.9	2.9	2.9	2.8	4.9	2.8	Fluc	4.9
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop Mode	0	0	0	0	0	0	0	0	4.5	4.9	4.9	0	5.0	5.0	5.0	5.0
Play Mode	0	0	0	0	0	0	4.0	0	4.5	4.9	4.9	0	0	0	0	0
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop Mode	0	0	5.0	0	3.5	4.9	4.9	4.9	4.9	0	0	0	0	0	4.0	0
Play Mode	0	0	5.0	5.0	0	4.9	4.9	4.9	0	0	0	0	0	4.2	3.8	0
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop Mode	5.0	0	4.9	4.9	4.6	0	0	4.9	0	2.4	2.4	4.9	0	5.0	5.0	0
Play Mode	5.0	0	0	4.9	4.6	0	0	4.9	0	2.4	2.4	4.9	0	5.0	5.0	0
Measuring Pin No.	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Stop Mode	5.0	0	5.0	0	5.0	5.0	0	0	-0	4.9	4.9	4.9	4.9	0	0	0
Play Mode	0	5.0	0	0	0	0	5.0	0	-0	4.9	4.9	4.9	4.9	0	0	0

NOTES :

PIN 23 : Stop Mode = OTHER
Play Mode = WAIT THE SYNCRO
PIN 31 : Stop Mode = OTHER
Play Mode = PICKUP MECHA UP
PIN 41 : Stop Mode = NON MAGAZINE
Play Mode = OTHER

PIN 29 : Stop Mode = OTHER
Play Mode = TRAY LOADING (IN)
PIN 32 : Stop Mode = OTHER
Play Mode = PICKUP MECHA UP & EJECT
PIN 62 : Stop Mode = EMPHASIS ON
Play Mode = EMPHASIS OFF

PIN 30 : Stop Mode = OTHER
Play Mode = TRAY LOADING (OUT)

IC104 LC7866E

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stop Mode	0	2.31	2.34	2.51	0	2.46	2.48	2.52	0	0	0	4.92	0	2.51	4.07	4.07
Play Mode	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Stop Mode	4.07	2.5	0	4.95	4.97	0	0	5.0	0	0	0	0	0	5.0	1.25	1.25
Play Mode	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	5.0	Fluc	Fluc	Fluc	Fluc	Fluc	5.0	Fluc	Fluc
Measuring Pin No.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Stop Mode	2.5	2.5	0	2.5	0	2.5	2.41	1.63	2.5	4.5	2.52	Fluc	2.28	0	2.5	0
Play Mode	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	0(4.5)	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc	Fluc
Measuring Pin No.	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Stop Mode	2.5	Fluc	Fluc	Fluc	0	5.0	4.48	0	4.92	Fluc	2.33	4.93	0	0	2.28	2.47
Play Mode	Fluc	Fluc	Fluc	Fluc	0	5.0	Fluc	0	Fluc	Fluc	Fluc	Fluc	Fluc	0	Fluc	Fluc

IC105 SM5870DS

Measuring Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Play Mode	3.0	0	0	0	5.0	5.0	5.0	2.5	2.4	1.6	5.0	0	0	4.8	0	5.0
Measuring Pin No.	17	18	19	20	21	22	23	24	25	26	27	28				
Play Mode	5.0	2.4	0	2.4	5.0	5.0	2.4	0	2.4	5.0	5.0	1.3				

IC106 XRA15218F

Measuring Pin No.	1	2	3	4	5	6	7	8
Play Mode	Fluc	1.3	1.3	-5.0	1.3	1.3	Fluc	5.0

VOLTAGES OF IC & TRANSISTOR (CD)

IC No. (Power Regulator)	IC107			IC108			IC109		
Measuring Pin Name	1 (OUT)	2 (GND)	3 (IN)	1 (COM)	2 (IN)	3 (OUT)	1 (OUT)	2 (GND)	3 (IN)
Stop Mode	5.0	0	11	-11.5	0	-5.0	5.6	0.6	12
Play Mode	5.0	0	10	-11.5	0	-5.0	5.6	0.6	12

IC111 LA6510

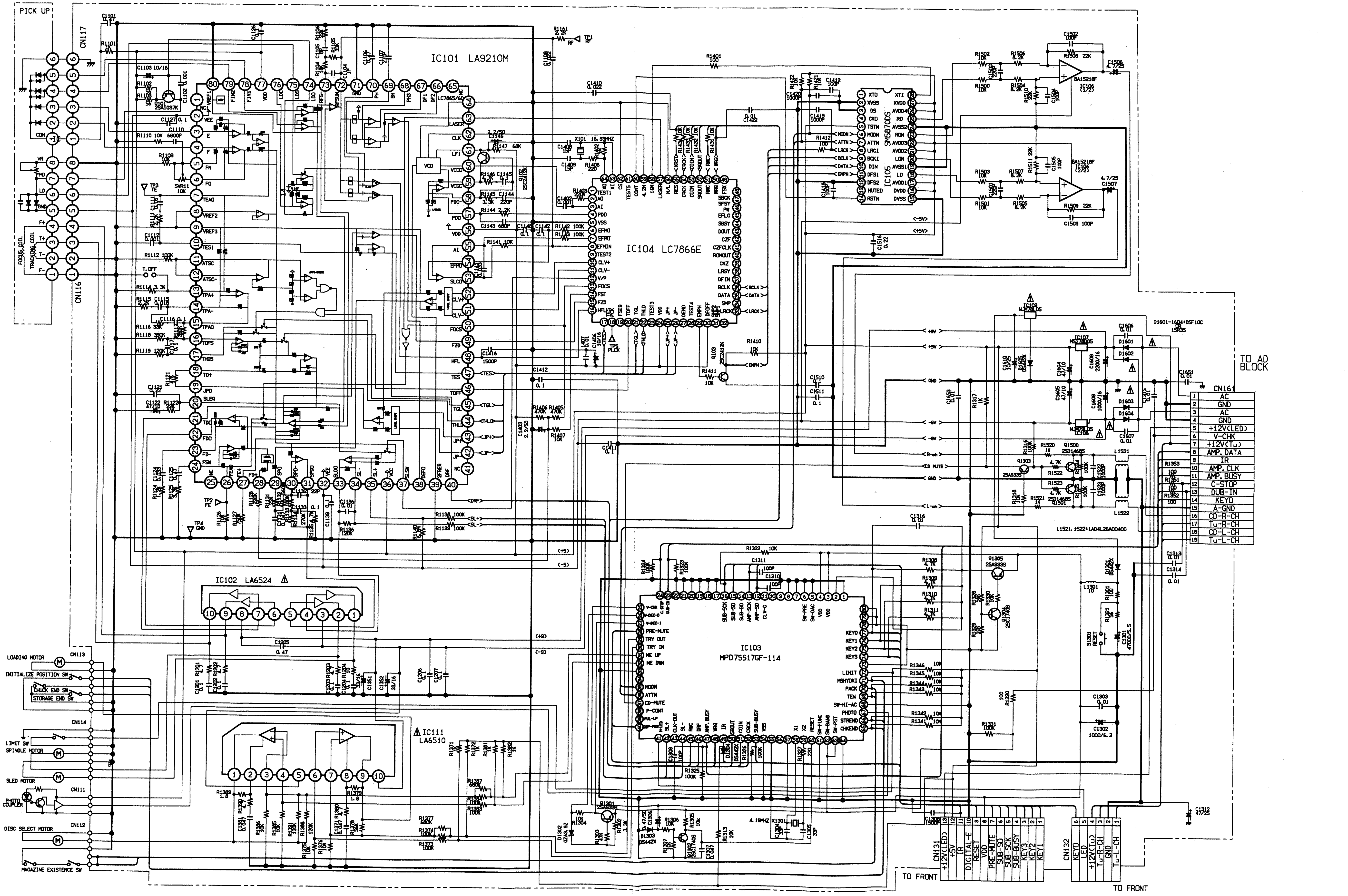
Measuring Pin No.	1	2	3	4	5	6	7	8	9	10
Play Mode	0	0	0	0	-11.0	0	0	0	0	10.0

TRANSISTOR

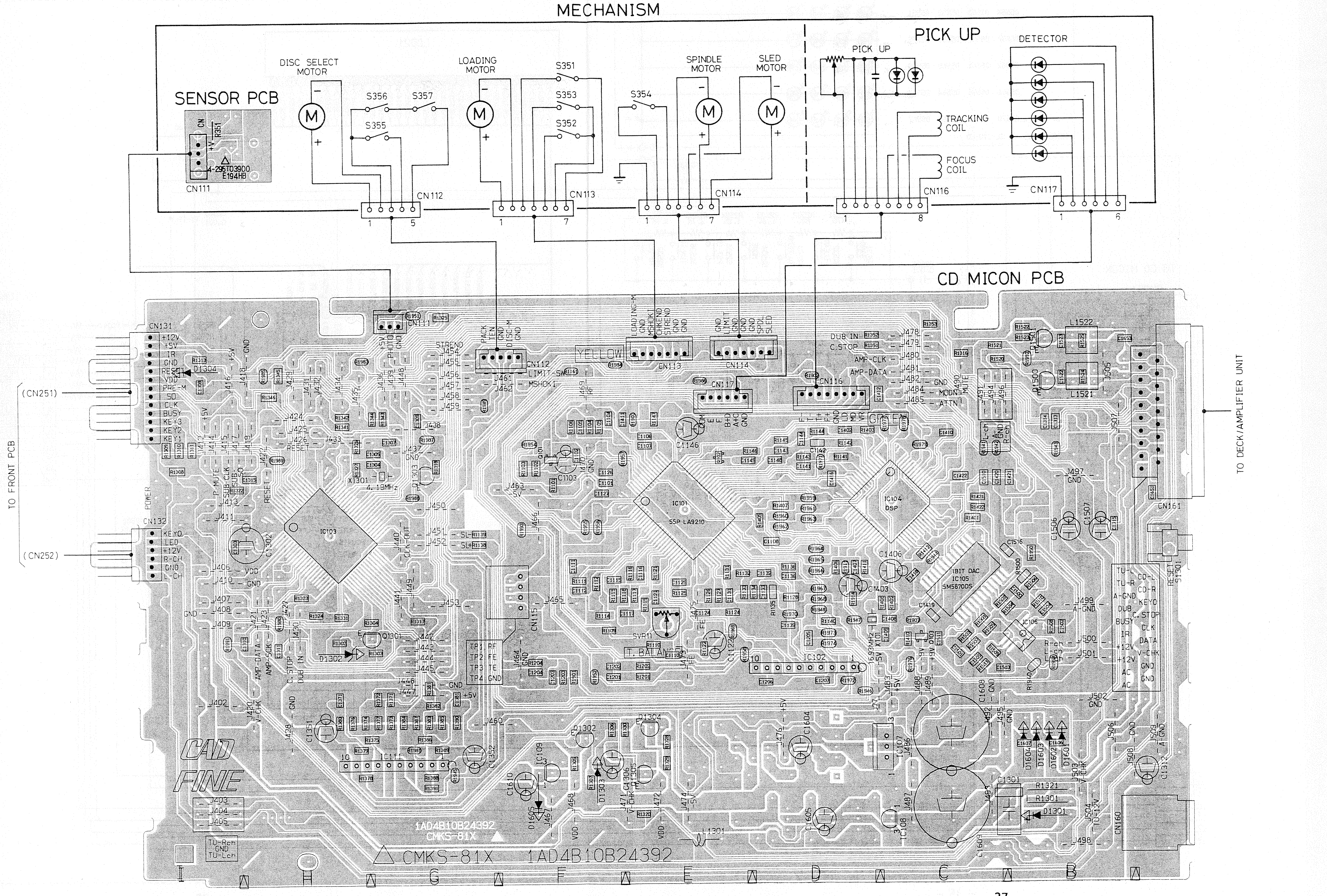
(Unit : Volt)

Transistor No.	Q101			Q102			Q103			Q1301		
Measuring Pin Name	E	C	B	E	C	B	E	C	B	E	C	B
Stop Mode	5.0	0	4.7	2.0	2.5	2.5	0	0	0.6			
Play Mode	3.6	1.8	3.0				0	4.9	0	5.0	5.0	0
Transistor No.	Q1302			Q1303			Q1304			Q1305		
Measuring Pin Name	E	C	B	E	C	B	E	C	B	E	C	B
Stop Mode				4.8	4.8	0	0	0	0.6	5.0	5.0	4.3
Play Mode	0	5.0	0	0	-5.0	0	0	0	0.6	5.0	5.0	4.3
Transistor No.	Q1500			Q1501								
Measuring Pin Name	E	C	B	E	C	B						
Stop Mode	0	0	0.6	0	0	0.6						
Play Mode	0	0	-5.0	0	0	-5.0						

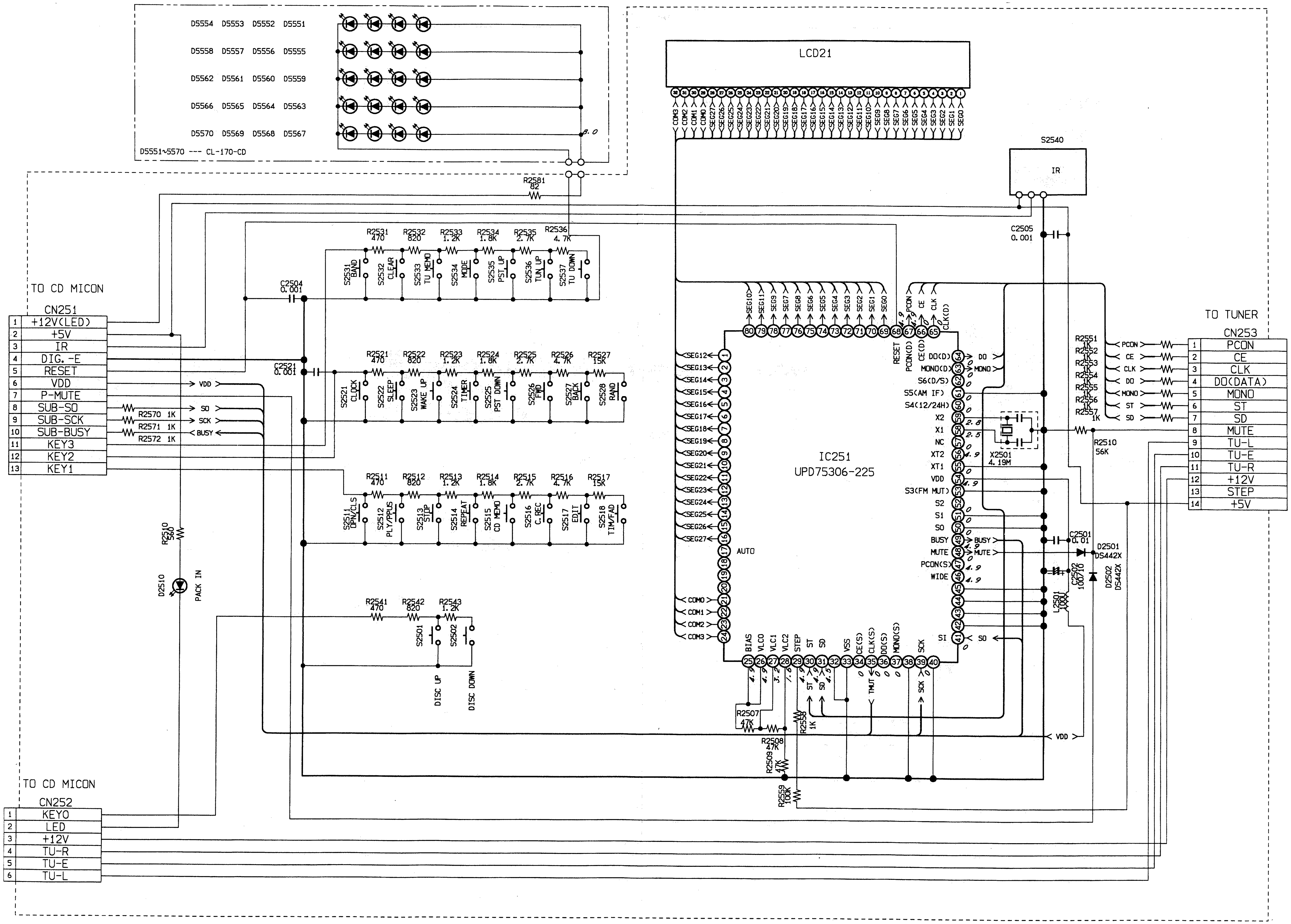
SCHEMATIC DIAGRAM (CD)


PICK UP
CN117
CN116
FOCUS COIL
TRACKING COIL
IC101 LA9210M
IC104 LC7866E
X101 16.93MHZ
IC105 SM5870DS
IC106 BA15218F
IC109 NJM78L05
IC107 MS7805
IC108 NJM79L05
D1601-1604:DSF10C OR 1SR35
L1521, 1522:1AD4L26A00400
TO AD BLOCK
CN161
1 AC
2 GND
3 AC
4 GND
5 +12V(LED)
6 V-CHK
7 +12V(Tu)
8 AMP.DATA
9 IR
10 AMP.CLK
11 AMP.BUSY
12 C-STOP
13 DUB-IN
14 KEYO
15 A-GND
16 CD-R-CH
17 Tu-R-CH
18 CD-L-CH
19 Tu-L-CH
IC102 LA6524
IC103 MPD75517GF-114
IC111 LA6510
4.19MHZ X1301
LOADING MOTOR
INITIALIZE POSITION SW
CHUCK END SW
STORAGE END SW
LIMIT SW
SPINDLE MOTOR
SLED MOTOR
PHOTO COUPLER
DISC SELECT MOTOR
MAGAZINE EXISTENCE SW
CN113
CN114
CN111
CN112
CN131
13 +12V(LED)
12 +5V
11 IR
10 DIGITAL-E
9 RESET
8 VDD
7 PRE-MUTE
6 SUB-SD
5 SUB-SCK
4 SUB-BUSY
3 KEY3
2 KEY2
1 KEY1
TO FRONT
CN132
6 KEYO
5 LED
4 +12V(Tu)
3 Tu-R-CH
2 GND
1 Tu-L-CH
TO FRONT

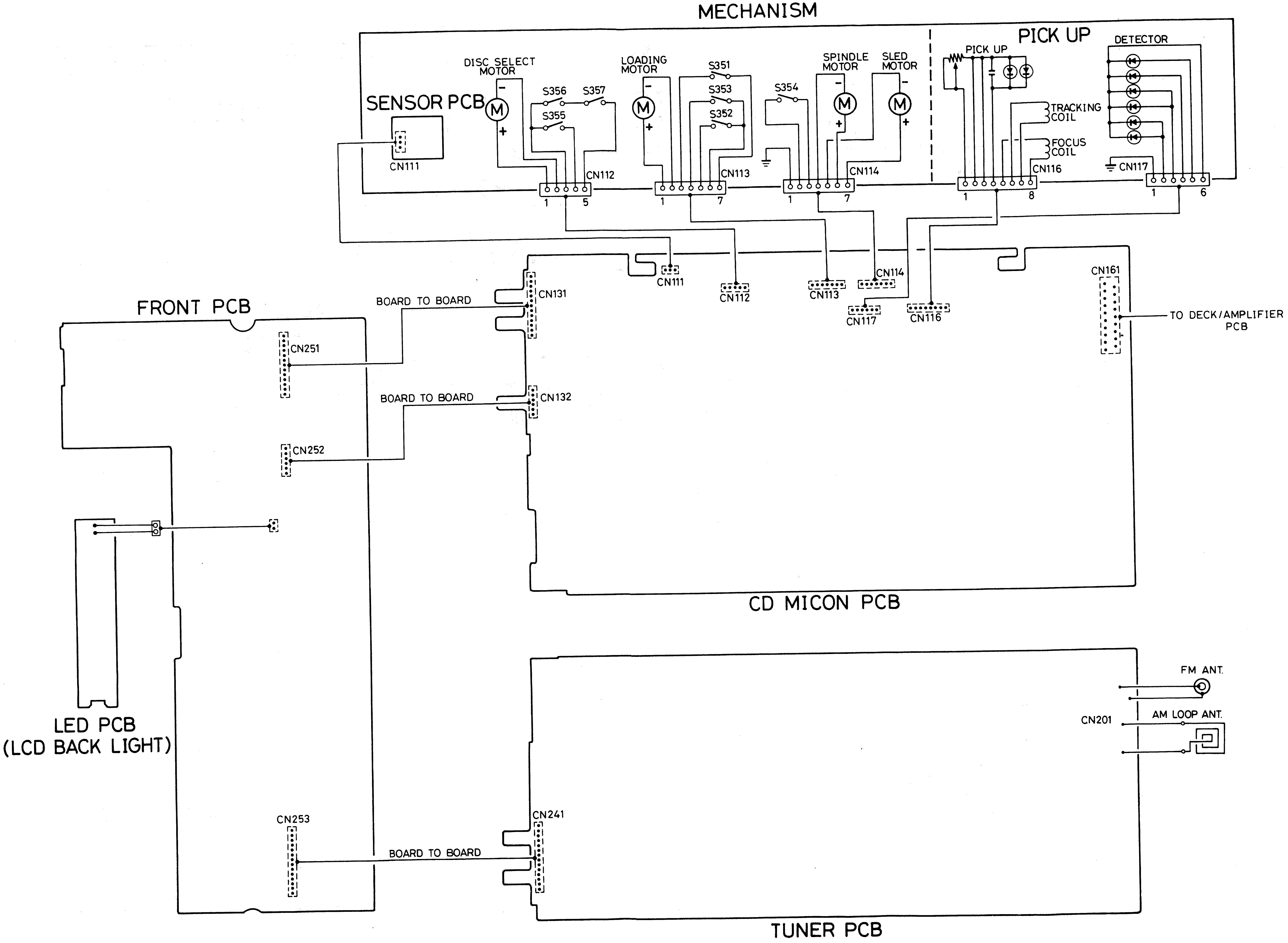
WIRING DIAGRAM (CD)


MECHANISM
PICK UP
SENSOR PCB
DISC SELECT MOTOR
LOADING MOTOR
SPINDLE MOTOR
SLED MOTOR
S351
S352
S353
S354
S355
S356
S357
PICK UP
DETECTOR
TRACKING COIL
FOCUS COIL
CN111
CN112
CN113
CN114
CN116
CN117
CD MICON PCB
CN131
CN132
CN161
CN160
(CN251)
(CN252)
TO FRONT PCB
TO DECK/AMPLIFIER UNIT
IC101
S5P LA9210
IC103
IC104
DSP
1BIT DAC
IC105
SM5870DS
IC106
IC102
IC108
IC111
X1301
4.19MHz
16.93MHz
X101
T. BALAN
SVR1
YELLOW
+12V
+5V
IR
GND
RESET
VDD
PRE-M
SD
CLK
BUSY
KEY3
KEY2
KEY1
KEY0
LED
R-CH
L-CH
POWER
LOADING-M
MSHOK1
CHKEND
STREND
LIMIT
SPDL
SLED
DUB IN
C.STOP
AMP-CLK
AMP-DATA
MODN
ATTN
MUTE
TU-L
TU-R
CD-L
CD-R
A-GND
DUB
C.STOP
BUSY
IR
DATA
+12V
V-CHK
AC
RESET S1301
TP1 RF
TP2 FE
TP3 TE
TP4 GND
CAD FINE
CMKS-81X
1AD4B10B24392

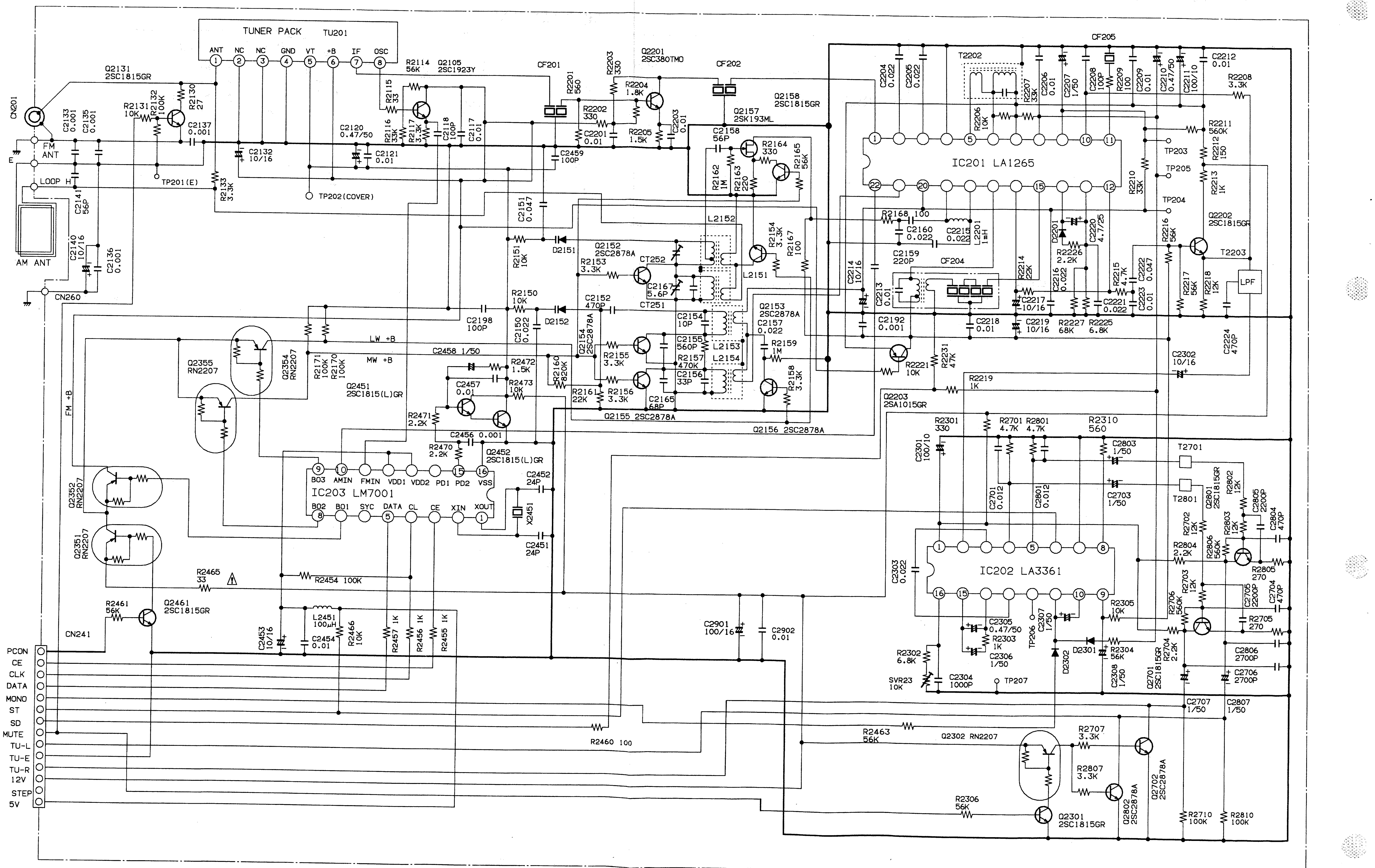
SCHEMATIC DIAGRAM (FRONT)


D5554 D5553 D5552 D5551
D5558 D5557 D5556 D5555
D5562 D5561 D5560 D5559
D5566 D5565 D5564 D5563
D5570 D5569 D5568 D5567
D5551~5570 --- CL-170-CD
LCD21
COM3 COM2 COM1 COM0 SEG27 SEG26 SEG25 SEG24 SEG23 SEG22 SEG21 SEG20 SEG19 SEG18 SEG17 SEG16 SEG15 SEG14 SEG13 SEG12 SEG11 SEG10 SEG9 SEG8 SEG7 SEG6 SEG5 SEG4 SEG3 SEG2 SEG1 SEG0
S2540
IR
R2581 82
C2505 0.001
TO CD MICON
CN251
1 +12V(LED)
2 +5V
3 IR
4 DIG.-E
5 RESET
6 VDD
7 P-MUTE
8 SUB-SO
9 SUB-SCK
10 SUB-BUSY
11 KEY3
12 KEY2
13 KEY1
R2570 1K
R2571 1K
R2572 1K
VDD
SO
SCK
BUSY
C2504 0.001
C2521 0.001
R2531 470 R2532 820 R2533 1.2K R2534 1.8K R2535 2.7K R2536 4.7K
S2531 BAND
S2532 CLEAR
S2533 TU MEMO
S2534 MODE
S2535 PST UP
S2536 TUN UP
S2537 TU DOWN
R2521 470 R2522 820 R2523 1.2K R2524 1.8K R2525 2.7K R2526 4.7K R2527 15K
S2521 CLOCK
S2522 SLEEP
S2523 WAKE UP
S2524 TIMER
S2525 PST DOWN
S2526 FWD
S2527 BACK
S2528 RAND
R2511 470 R2512 820 R2513 1.2K R2514 1.8K R2515 2.7K R2516 4.7K R2517 15K
S2511 OPN/CLS
S2512 PLY/PAUS
S2513 STOP
S2514 REPEAT
S2515 CD MEMO
S2516 C.REC
S2517 EDIT
S2518 TIM/FAD
R2541 470 R2542 820 R2543 1.2K
S2501 S2502
DISC UP
DISC DOWN
R2510 560
D2510
PACK IN
IC251
UPD75306-225
SEG10 SEG11 SEG9 SEG8 SEG7 SEG6 SEG5 SEG4 SEG3 SEG2 SEG1 SEG0 PCON CE CLK CLK(D)
SEG12 SEG13 SEG14 SEG15 SEG16 SEG17 SEG18 SEG19 SEG20 SEG21 SEG22 SEG23 SEG24 SEG25 SEG26 SEG27
AUTO
COM0 COM1 COM2 COM3
RESET PCON(D) CE(D)
DO(D) MONO(D) S6(D/S) S5(AM IF) S4(12/24H) X2 X1 NC XT2 XT1 VDD S3(FM MUT) S2 S1 SO BUSY MUTE PCON(S) WIDE SI
DO MONO BUSY MUTE SO
BIAS VLCO VLC1 VLC2 STEP ST SD VSS CE(S) CLK(S) DO(S) MONO(S) SCK
ST SD TMUT SCK
2.8 2.5 4.9 4.9 4.9 4.9 4.9 3.2 1.6
X2501 4.19M
R2510 56K
C2501 0.01
D2501 DS442X
C2502 100/10
D2502 DS442X
L2501 100U
R2507 47K
R2508 47K
R2509 47K
R2558 1K
R2559 100K
VDD
R2551 1K R2552 1K R2553 1K R2554 1K R2555 1K R2556 1K R2557 1K
PCON CE CLK DO MONO ST SD
TO TUNER
CN253
1 PCON
2 CE
3 CLK
4 DO(DATA)
5 MONO
6 ST
7 SD
8 MUTE
9 TU-L
10 TU-E
11 TU-R
12 +12V
13 STEP
14 +5V
TO CD MICON
CN252
1 KEY0
2 LED
3 +12V
4 TU-R
5 TU-E
6 TU-L

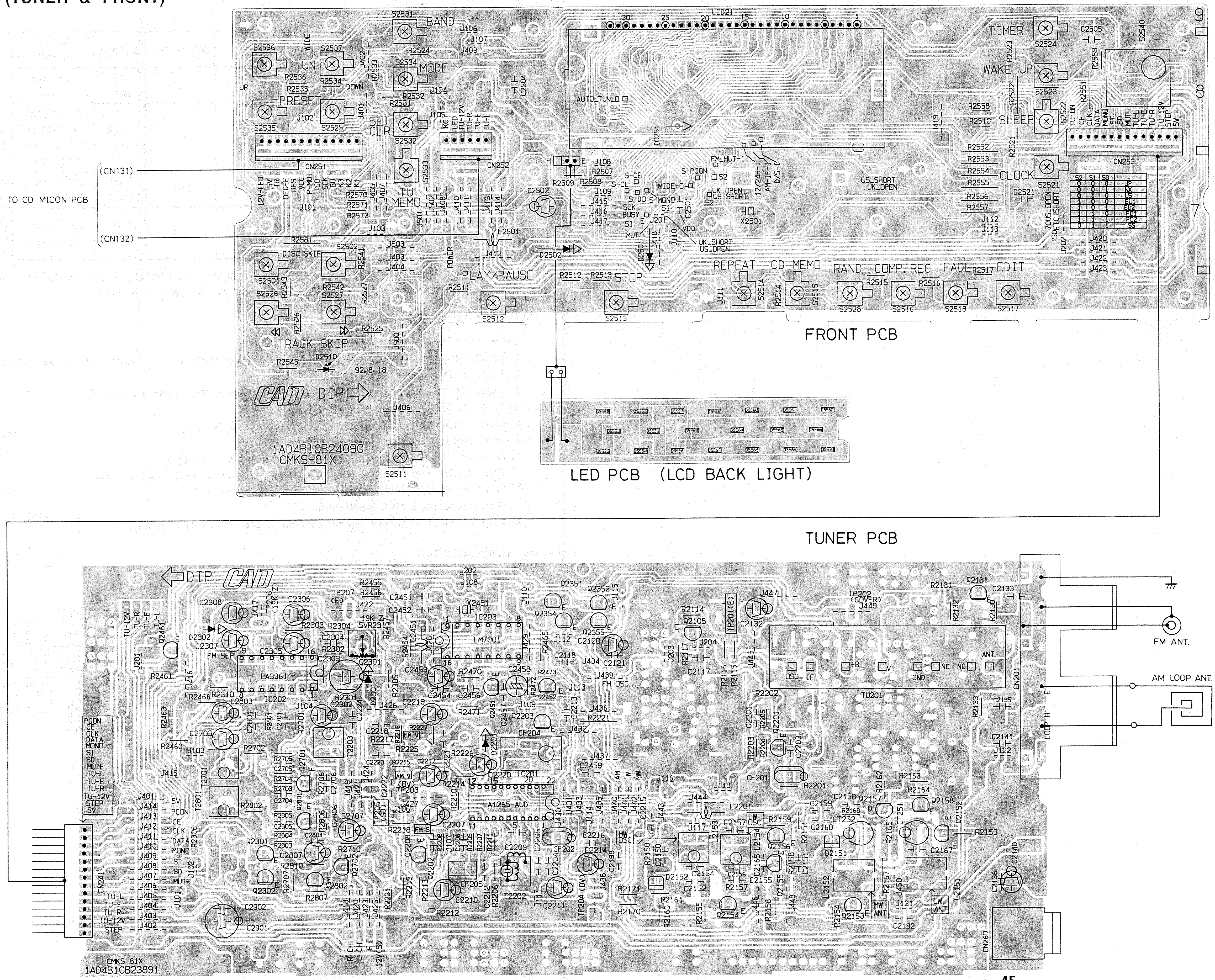
WIRING CONNECTION (TUNER / CD UNIT)


MECHANISM
PICK UP
DISC SELECT MOTOR
LOADING MOTOR
S351
S353
S352
S356
S357
S355
S354
SPINDLE MOTOR
SLED MOTOR
PICK UP
DETECTOR
TRACKING COIL
FOCUS COIL
SENSOR PCB
M
M
M
M
CN111
CN112
CN113
CN114
CN116
CN117
1
5
1
7
1
7
1
8
1
6
CN111
CN112
CN113
CN114
CN117
CN116
CN131
CN132
CN161
TO DECK/AMPLIFIER PCB
FRONT PCB
BOARD TO BOARD
CN251
BOARD TO BOARD
CN252
LED PCB (LCD BACK LIGHT)
CN253
BOARD TO BOARD
CN241
CD MICON PCB
FM ANT.
AM LOOP ANT.
CN201
TUNER PCB

SCHEMATIC DIAGRAM (TUNER)


TUNER PACK TU201
ANT
NC
NC
GND
VT
+B
IF
OSC
Q2131
2SC1815GR
CN201
FM
ANT
E
LOOP H
AM ANT
CN260
TP201(E)
TP202(COVER)
R2131 10K
R2132 100K
R2130 27
C2133 0.001
C2135 0.001
C2137 0.001
C2132 10/16
R2133 3.3K
C2141 56P
C2140 10/16
C2136 0.001
R2114 56K
Q2105 2SC1923Y
R2115 33
R2116 33K
R2117 3.3K
C2118 100P
C2117 0.01
C2120 0.47/50
C2121 0.01
CF201
R2201 560
R2203 330
Q2201 2SC380TMO
R2204 1.8K
R2202 330
C2201 0.01
R2205 1.5K
C2203 0.01
C2459 100P
CF202
Q2158 2SC1815GR
Q2157 2SK193ML
C2158 56P
R2164 330
R2165 56K
R2162 1M
R2163 220
C2151 0.047
L2152
R2151 10K
D2151
Q2152 2SC2878A
R2153 3.3K
CT252
C2167 5.6P
R2154 3.3K
R2167 100
L2151
R2150 10K
C2152 470P
CT251
D2152
C2198 100P
C2150 0.022
Q2154 2SC2878A
C2154 10P
C2155 560P
L2153
R2157 470K
L2154
C2156 33P
Q2153 2SC2878A
C2157 0.022
R2159 1M
R2158 3.3K
R2155 3.3K
R2156 3.3K
R2161 22K
R2160 820K
C2165 68P
Q2155 2SC2878A
Q2156 2SC2878A
LW +B
MW +B
C2458 1/50
R2472 1.5K
R2473 10K
C2457 0.01
Q2451 2SC1815(L)GR
R2171 100K
R2170 100K
Q2355 RN2207
Q2354 RN2207
R2471 2.2K
C2456 0.001
R2470 2.2K
Q2452 2SC1815(L)GR
FM +B
Q2352 RN2207
Q2351 RN2207
IC203 LM7001
BO3
AMIN
FMIN
VDD1
VDD2
PD1
PD2
VSS
BO2
BO1
SYC
DATA
CL
CE
XIN
XOUT
C2452 24P
X2451
C2451 24P
R2465 33
R2454 100K
R2461 56K
Q2461 2SC1815GR
CN241
C2453 10/16
L2451 100μH
C2454 0.01
R2466 10K
R2457 1K
R2456 1K
R2455 1K
PCON
CE
CLK
DATA
MONO
ST
SD
MUTE
TU-L
TU-E
TU-R
12V
STEP
5V
R2460 100
C2901 100/16
C2902 0.01
R2463 56K
CF205
C2204 0.022
C2205 0.022
T2202
R2207 33K
C2206 0.01
C2207 1/50
C2208 100P
R2209 100
C2209 0.01
C2210 0.47/50
C2211 100/10
C2212 0.01
R2208 3.3K
R2206 10K
R2211 560K
R2212 150
IC201 LA1265
TP203
TP205
TP204
R2210 33K
R2213 1K
R2168 100
C2160 0.022
C2215 0.022
L2201 1mH
D2201
C2220 4.7/25
R2226 2.2K
R2216 56K
Q2202 2SC1815GR
T2203
C2159 220P
CF204
C2214 10/16
C2213 0.01
R2214 22K
C2216 0.022
C2217 10/16
R2215 4.7K
C2222 0.047
C2223 0.01
C2221 0.022
R2217 56K
R2218 12K
LPF
C2192 0.001
C2218 0.01
C2219 10/16
R2227 68K
R2225 6.8K
C2224 470P
R2221 10K
R2231 47K
C2302 10/16
R2219 1K
Q2203 2SA1015GR
R2301 330
R2701 4.7K
R2801 4.7K
R2310 560
C2803 1/50
T2701
C2301 100/10
C2701 0.012
C2801 0.012
C2703 1/50
T2801
Q2801 2SC1815GR
R2802 12K
C2805 2200P
C2804 470P
R2702 12K
R2803 12K
R2804 2.2K
R2806 560K
R2805 270
C2303 0.022
IC202 LA3361
R2703 12K
C2705 2200P
C2704 470P
R2706 560K
R2305 10K
C2705 270
C2305 0.47/50
R2303 1K
C2306 1/50
TP206
C2307 1/50
D2301
R2304 56K
D2302
C2308 1/50
Q2701 2SC1815GR
R2704 2.2K
C2806 2700P
C2706 2700P
R2302 6.8K
SVR23 10K
C2304 1000P
TP207
C2707 1/50
C2807 1/50
Q2302 RN2207
R2707 3.3K
R2807 3.3K
R2306 56K
Q2301 2SC1815GR
Q2802 2SC2878A
Q2702 2SC2878A
R2710 100K
R2810 100K

WIRING DIAGRAM (TUNER & FRONT)


FRONT PCB
LED PCB (LCD BACK LIGHT)
TUNER PCB
TO CD MICON PCB
(CN131)
(CN132)
BAND
TUN
PRESET
MODE
SET CLR
TU MEMO
DISC SKIP
TRACK SKIP
PLAY/PAUSE
STOP
REPEAT
CD MEMO
RAND
COMP. REC
FADE
EDIT
TIMER
WAKE UP
SLEEP
CLOCK
LCD21
IC251
AUTO_TUN_D
CN251
CN252
CN253
DIP
92.8.18
1AD4B10B24090
CMKS-81X
FM ANT.
AM LOOP ANT.
TU201
CN201
CN241
CN260
LA3361
LM7001
LA1265-AUD
FM SEP
FM OSC
CMKS-81X
1AD4B10B23891

MEMO

ADJUSTMENT OF DECK & TORQUE

1. Amplifier Adjustment

	ITEM	DECK	TEST TAPE	INPUT	DOLBY SW	OUTPUT	ADJUST POINT	REMARKS
1	Head Azimuth	DECK A DECK B	VTT738	-	OFF	TAPE OUT	Azimuth Screw	Adjust so as 10kHz output become maximum.
2	Playback Level	DECK A DECK B	TCC130	-	OFF	TAPE OUT	SVR30 (L-ch) SVR31 (R-ch) SVR32 (L-ch) SVR33 (R-ch)	Adjust so as TAPE OUT output become 0.54V.
3	Rec / Play Level	DECK A	AC224	1kHz -18dB	OFF	TAPE OUT	SVR34 (L-ch) SVR35 (R-ch)	Adjust SVR so as Monitor o/p = R/P Level = 0dB ± 1dB.
4	Rec / Play Frequency	DECK B	AC224	1kHz /10kHz -28dB	OFF	TAPE OUT	SVR36 (L-ch) SVR37 (R-ch)	R/P signal, set frequency characteristic 1kHz output to 0dB. Adjust SVR so as 10kHz output become ± 1dB.

Note. 1. During alignment, measurement Beat cancel SW is at 1 condition fundamentally, confirm Rec / Play frequency characteristic, dolby effect also by 2 condition, when ship out set SW to 1 position.

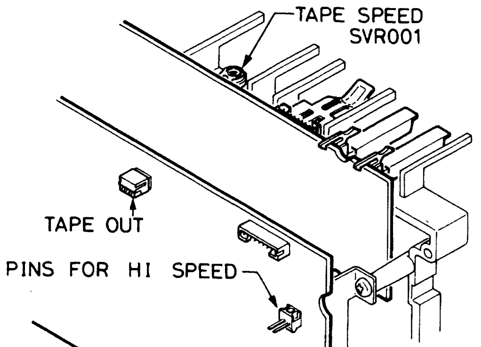
2. Tape Speed Adjustment

Connect the FREQUENCY COUNTER to TAPE OUT.

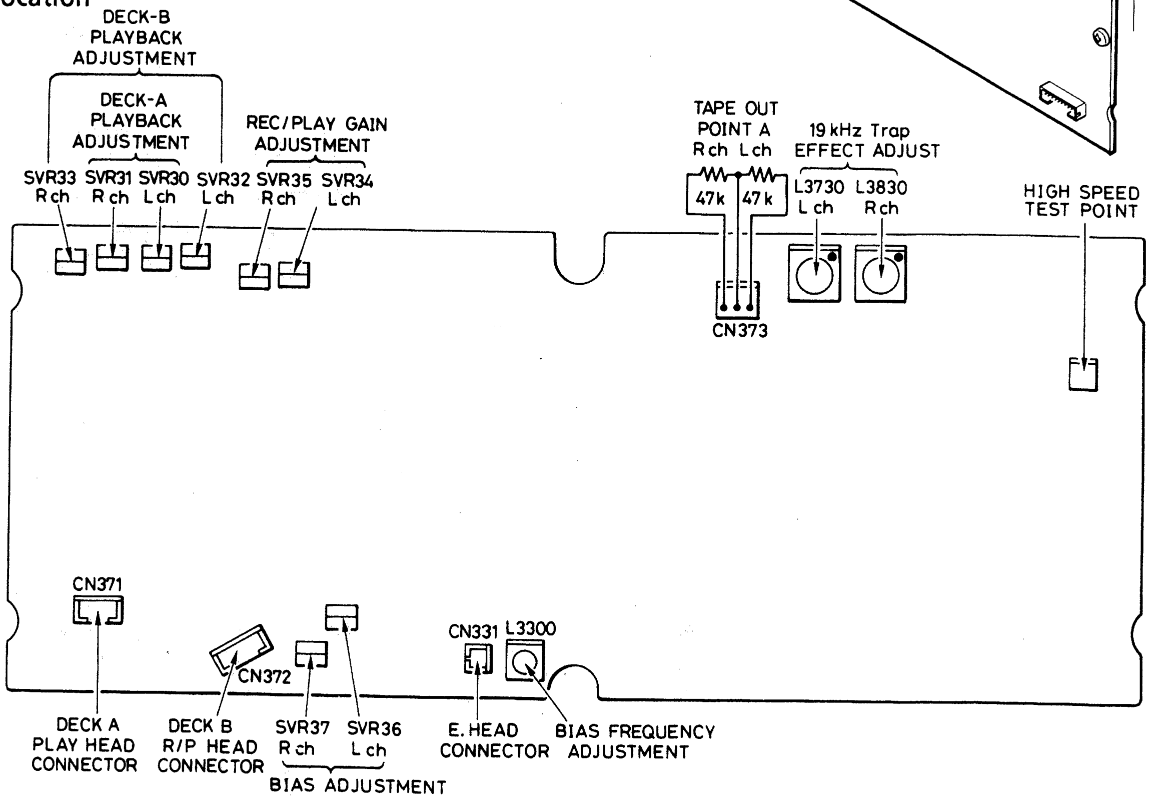
1. Insert the test tape(MTT-111N, etc. : 3000Hz) into the DECK A.

Note : Set the test tape near the tape end.

2. Press the FWD PLAY button.
3. Adjust SVR001 so that a frequency counter reading of 3000 ± 5 Hz is obtained.
4. Press the STOP button, and eject the test tape.
5. Insert the test tape(TCW-211, etc. : 1500Hz) into the DECK A.
6. Insert the tape (C-60 Blank tape) into the DECK B.
7. Press the REC button of DECK B and press the DECK A / B button.
   Press the FWD PLAY button. Both mechanism become normal speed dubbing.
8. Short the high speed test pin to the high speed position.
   (The mechanism is high speed dubbing.)
9. Confirm that a frequency counter reading of 2700 ~ 3300Hz is obtained.


TAPE SPEED
SVR001
TAPE OUT
PINS FOR HI SPEED

3. Parts Location


DECK-B PLAYBACK ADJUSTMENT
DECK-A PLAYBACK ADJUSTMENT
REC/PLAY GAIN ADJUSTMENT
SVR33 Rch
SVR31 Rch
SVR30 Lch
SVR32 Lch
SVR35 Rch
SVR34 Lch
TAPE OUT POINT A
Rch Lch
47k
47k
CN373
19 kHz Trap EFFECT ADJUST
L3730 Lch
L3830 Rch
HIGH SPEED TEST POINT
CN371
CN372
CN331
L3300
DECK A PLAY HEAD CONNECTOR
DECK B R/P HEAD CONNECTOR
SVR37 Rch
SVR36 Lch
BIAS ADJUSTMENT
E. HEAD CONNECTOR
BIAS FREQUENCY ADJUSTMENT

ADJUSTMENT OF DECK & TORQUE

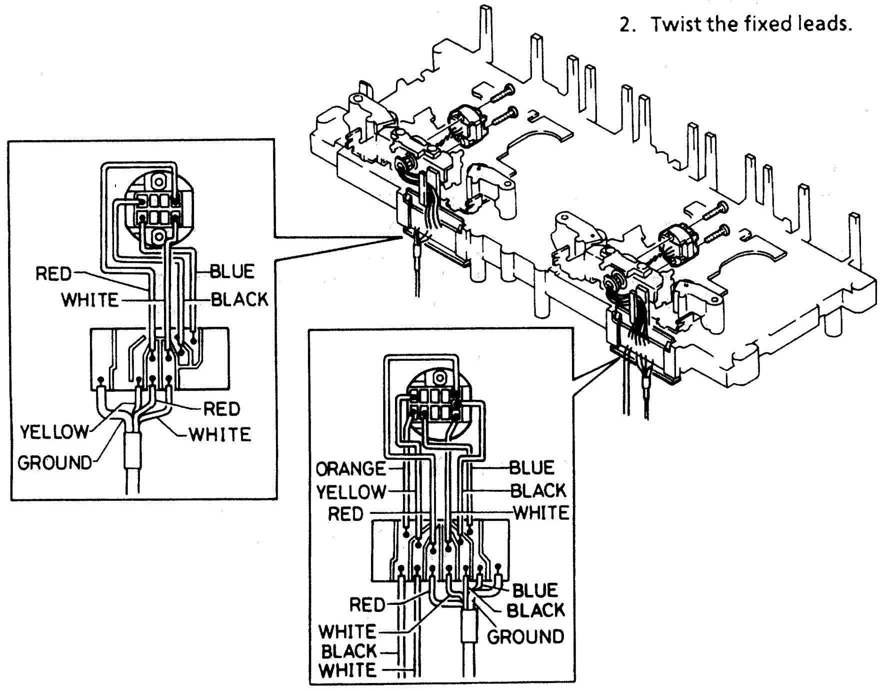
4. Torque Measurements

ITEM	TAKE-UP TORQUE	BACK TENSION	TAPE TENSION
Test cassette	PLAY :TW2111(FWD) PLAY :TW2121(REV) F.FWD / REW;TW2231	PLAY :TW2111(FWD) PLAY :TW2121(REV) REW:Torque Gage	Driving power cassette: TW-2412(FWD) TW-2422(REV)
PLAY	30 ~ 60gr.cm	2.0 ~ 5.0gr.cm	> 80g
F.FWD	70 ~ 140gr.cm	-	
REW	70 ~ 140gr.cm	-	

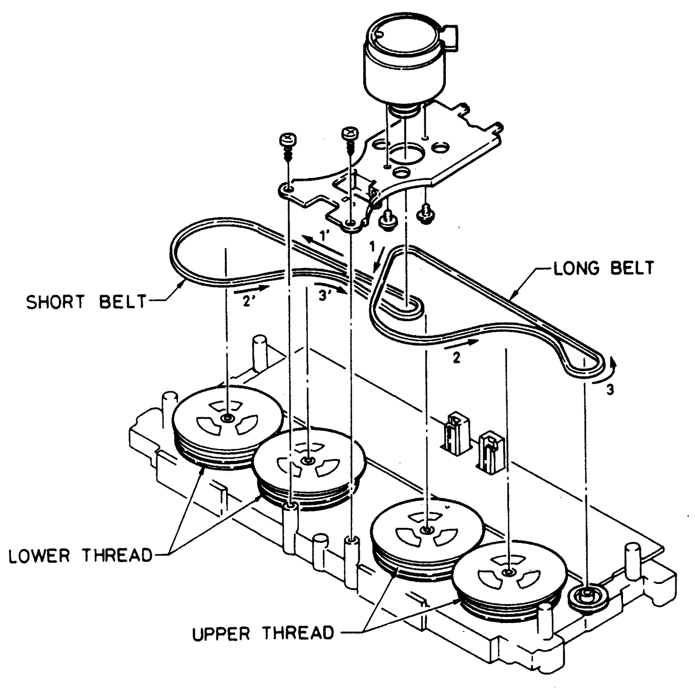
5. Replacement of Head

Lead Connection Method of Rotary Head

1. Fix the leads from the head at the stem with the rubber adhesives.
2. Twist the fixed leads.



6. Replacement of Motor and Belt



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistence, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.

N.S.P : Not avairable as service parts.

CABINET

Ref. No.	Part No.	Description
1	614 238 9959	ASSY,PANEL,FRONT
2	614 240 0623	ASSY,CABINET
3	614 243 1993	ASSY,PANEL,REAR
4	614 238 9874	ASSY,CABINET,BOTTOM
5	614 245 1311	ASSY,COVER,TAPE A
6	614 238 9898	ASSY,COVER,TAPE B
7	614 239 0467	BUTTON,POWER
8	614 239 0016	ASSY,BUTTON,PRESET
9	614 239 0474	BUTTON,EQ
10	614 239 0481	BUTTON,FUNCTION
11	614 239 1099	ESCUTCHEON
12	614 239 0405	KNOB,ROTARY,BALANCE VOL
13	614 239 0429	KNOB,ROTARY,MAIN VOL
14	614 239 0443	KNOB,LEVER,EJECT A
15	614 239 0450	KNOB,LEVER,EJECT B
16	614 239 0023	ASSY,BUTTON,REC
17	614 239 0030	ASSY,BUTTON,PLAY
18	⚠ 614 129 1772	FIXER,AC CORD
19	412 003 2804	SPECIAL SCREW,PHONO GND

CHASSIS

Ref. No.	Part No.	Description
21	614 238 9904	ASSY,LID,CASSETTE,TAPE A
22	614 238 9911	ASSY,LID,CASSETTE,TAPE B
23	614 221 8983	LEVER,EJECT L
24	614 221 8990	LEVER,EJECT R
25	614 208 9606	SPRING,TENS,EJECT
26	614 244 8199	ASSY,GEAR,CASSETTE DUMPER
27	614 239 0603	MOUNT-M,DUMP GEAR FIX
28	614 239 0689	SPRING WIRE,CASSETTE OPEN
29	614 241 2886	SPRING WIRE,CASSETTE OPEN
30	614 221 8839	BRACKET-E,DECK PCB
31	614 129 5558	FIXER,DECK PCB
32	614 239 0559	BRACKET-M,HEAT SINK
33	614 239 0634	SHIELD,RCA
34	614 129 5534	FIXER,MAIN PCB
	614 129 4971	FIXER,DRESS LEAD

FIXING PARTS

Ref. No.	Part No.	Description
Y01	411 021 1806	SCR S-TPG BIN 2.6X10
Y02	411 021 5705	SCR S-TPG BIN 3X6
Y03	411 020 9803	SCR S-TPG BRZ+FLG 3X6
Y04	411 021 6405	SCR S-TPG BIN 3X8
Y05	411 020 9902	SCR S-TPG BRZ+FLG 3X8
Y06	411 021 3503	SCR S-TPG BIN 3X10
Y07	411 021 3701	SCR S-TPG BIN 3X10
Y08	411 020 9407	SCR S-TPG BRZ+FLG 3X14
Y09	411 098 4403	SCR S-TPG BIN 3X25
Y10	411 021 9604	SCR S-TPG BIM 4X8
Y11	411 105 9704	WASHER Z 3X10X1
Y12	411 008 0402	WASHER OUT TW 3
Y13	411 021 3107	SCR S-TPG BIN 2.6X8

ELECTRICAL PARTS

Ref. No.	Part No.	Description
51	⚠ 614 023 3100	POWER CORD,AC-IN
or	⚠ 614 023 3148	POWER CORD,AC-IN
52	⚠ 423 005 6509	FUSE 250V 1.25A,FU999
53	⚠ 614 239 6582	POWER TRANSFORMER
54	⚠ 614 239 6841	HEAT SINK,AF POWER IC
55	⚠ 423 016 8004	FUSE 250V 3.15A,FU701·801
56	614 239 7381	CORD,17P,FRONT-MAIN(FFC)
57	614 234 9328	INSULATOR,PT-PRIMARY PCB
58	614 051 9808	LUG,EARTH
61	614 239 6643	ASSY,CONNECTOR-S,3P, FRONT-PRE
62	614 239 6650	ASSY,CONNECTOR-S,4P, FRONT-SP
63	614 243 1948	ASSY,CONNECTOR-S,8P, MAIN-MECHA.A(CN001)
64	614 243 1924	ASSY,CONNECTOR-S,8P, MAIN-MECHA.B(CN002)
65	614 243 1955	ASSY,CONNECTOR-S,9P, PRE-DECK(CN301)
66	614 243 1931	ASSY,CONNECTOR-S,9P, MAIN-DECK(CN302)
67	614 231 2599	ASSY,CONNECTOR-S,2P, E HEAD(CN341)
68	614 231 2575	ASSY,CONNECTOR-S,3P, P HEAD(CN381)
69	614 231 2582	ASSY,CONNECTOR-S,5P, R/P HEAD(CN382)

PRE-AMPLIFIER P.C.BOARD ASSY

Ref. No.	Part No.	Description
71	614 241 0806	ASSY,PCB,PRE-AMP.
C4516	403 139 9102	MT-POLYEST 0.082U J 63V
C4517	403 065 8200	MT-POLYEST 0.27U J 63V
C4518	403 139 8600	MT-POLYEST 0.033U J 63V
C4519	403 065 8002	MT-PLLYEST 0.1U J 63V
C4572	403 057 1905	POLYESTER 0.1U J 50V
C4573	403 057 1905	POLYESTER 0.1U J 50V
C4574	403 057 1905	POLYESTER 0.1U J 50V
C4575	403 057 1905	POLYESTER 0.1U J 50V
C4578	403 062 6209	POLYESTER 0.056U J 50V
C4616	403 139 9102	MT-POLYEST 0.082U J 63V
C4617	403 065 8200	MT-POLYEST 0.27U J 63V
C4618	403 139 8600	MT-POLYEST 0.033U J 63V
C4619	403 065 8002	MT-PLLYEST 0.1U J 63V
C4672	403 057 1905	POLYESTER 0.1U J 50V
C4673	403 057 1905	POLYESTER 0.1U J 50V
C4674	403 057 1905	POLYESTER 0.1U J 50V
C4675	403 057 1905	POLYESTER 0.1U J 50V
C4678	403 062 6209	POLYESTER 0.056U J 50V
CN301	614 017 2607	PLUG,9P,TO DECK
CN411	614 239 7244	SOCKET,10P,TO MAIN-AMP.
CN412	614 239 7220	SOCKET,8P,TO MAIN-AMP.
CN413	614 239 7213	SOCKET,7P,TO MAIN AMP.
CN414	614 241 9441	SOCKET,6P,TO MAIN-AMP.
CN431	614 221 3360	SOCKET,4P,RCA,HONO & VIDEO

PARTS LIST

Ref. No.	Part No.	Description
CN432	614 239 5462	SOCKET,1P,RCA TYPE,EXT SP
CN441	614 017 2546	PLUG,3P,TO FRONT(VR)
D4190	407 053 6407	ZENER DIODE MTZ5.1C
D4350	407 053 6704	ZENER DIODE MTZ5.6B
D4450	407 053 6704	ZENER DIODE MTZ5.6B
D4500	407 053 6308	ZENER DIODE MTZ5.1B
D4501	407 053 7701	ZENER DIODE MTZ6.8C
D4502	407 053 7701	ZENER DIODE MTZ6.8C
IC701	409 018 4909	IC LA6458S
IC702	409 003 9308	IC BU4051B
IC703	409 018 4909	IC LA6458S
IC704	409 018 4909	IC LA6458S
IC705	409 088 4007	IC LC7522
IC706	409 018 4909	IC LA6458S
IC707	409 114 4803	IC LB1641
IC711	409 018 4909	IC LA6458S
IC802	409 003 9308	IC BU4051B
L4190	614 027 9214	CHOKE COIL
Q4301	405 105 7204	TR BA1L4Z
or	405 075 8409	TR DTC144TS
Q4302	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4303	405 105 7204	TR BA1L4Z
or	405 075 8409	TR DTC144TS
Q4304	405 105 7204	TR BA1L4Z
or	405 075 8409	TR DTC144TS
Q4305	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4306	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4307	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4308	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q4309	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q4504	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4505	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4506	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4507	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4508	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4509	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4510	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4570	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4571	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4604	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4605	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4606	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4607	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4608	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4609	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4610	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4670	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4671	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
R4190	⚠ 402 004 4303	FUSIBLE RES 10 J- 1/4W
RA450	614 218 0464	RESISTOR,100K X8
or	614 209 3696	RESISTOR,100K X8
RA451	614 218 0464	RESISTOR,100K X8
or	614 209 3696	RESISTOR,100K X8
S3101	614 012 4316	SWITCH,BEAT CANCEL
or	614 023 8297	SWITCH,BEAT CANCEL
S4302	614 215 9828	SWITCH,TACT,RESET
VR451	614 239 4755	V.R,ROTARY,WITH MOTOR,100K(B),MAIN VOL

MAIN-AMPLIFIER P.C.BOARD ASSY

Ref. No.	Part No.	Description
72	614 241 0813	ASSY,PCB,MAIN-AMP.
C4907	403 200 0502	ELECT 3300U M 50V
C4908	403 200 0502	ELECT 3300U M 50V
C4925	403 200 0205	ELECT 2200U M 35V
C5000	403 135 3302	ELECT 1000U M 6.3V
CN001	614 017 2591	PLUG,8P,TO MECHA. A
CN002	614 228 0911	PLUG,8P,TO MECHA. B
CN302	614 236 4277	PLUG,9P,TO DECK-AMP.
CN321	614 220 2739	PLUG,6P,TO FRONT SW1
CN322	614 017 2577	PLUG,6P,TO FRONT SW2
CN500	614 241 0530	SOCKET,17P,TO FRONT(FFC)
CN802	614 020 1239	SOCKET,4P,TO SP TERMINAL
CN850	614 020 6555	SOCKET,3P,TO REGULATOR IC
or	614 223 9216	SOCKET,3P,TO REGULATOR IC
CN870	614 020 6579	SOCKET,5P,TO P.T SEC
or	614 223 9230	SOCKET,5P,TO P.T SEC
CN871	614 020 1222	SOCKET,3P,TO P.T PRI
CN900	614 239 5455	SOCKET,19P,TO CD/TUNER UNIT
CN911	614 239 7176	PLUG,10P,TO PRE-AMP
CN912	614 239 7152	PLUG,8P,TO PRE-AMP
CN913	614 239 7145	PLUG,7P,TO PRE-AMP
CN914	614 241 9434	PLUG,6P,TO PRE-AMP
D4741	407 053 3208	ZENER DIODE MTZ12B
D4900	⚠ 407 077 7800	DIODE RBV-402LF-A
or	⚠ 407 146 3306	DIODE RBA-402LF-A
D4901	⚠ 407 012 3300	DIODE 1SR35-200A
D4902	⚠ 407 012 3300	DIODE 1SR35-200A
D4903	⚠ 407 012 3300	DIODE 1SR35-200A
D4904	⚠ 407 012 3300	DIODE 1SR35-200A
D4905	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4911	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4912	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
D4913	407 053 3802	ZENER DIODE MTZ15C
D4950	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4951	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4952	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D4953	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01

PARTS LIST

Ref. No.	Part No.	Description
or	407 012 5809	DIODE 1SS176
D5000	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D5005	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D5006	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
D5007	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
D5200	407 053 6704	ZENER DIODE MTZ5.6B
D5201	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
D5202	407 012 5809	DIODE 1SS176
or	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D5300	407 053 6704	ZENER DIODE MTZ5.6B
D5301	407 053 6704	ZENER DIODE MTZ5.6B
HS401	⚠ 614 203 7362	HEAT SINK, FOR IC900
HS402	⚠ 614 203 7362	HEAT SINK, FOR IC903
HS403	⚠ 614 121 5884	HEAT SINK, FOR Q4903
HS404	⚠ 614 121 5884	HEAT SINK, FOR Q4904
IC500	410 150 9608	IC UPD75516GF-412-3B9
IC501	409 275 5107	IC BA3826S
IC700	⚠ 409 067 2109	IC STK4162MK2
IC900	⚠ 409 027 1005	IC L780S12
IC901	⚠ 409 169 7804	IC NJM78M05FA
or	⚠ 409 057 6407	IC UPC78M05H
or	⚠ 409 026 8500	IC L78M05
IC903	⚠ 409 027 1005	IC L780S12
Q4720	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q4721	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q4740	⚠ 405 015 1606	TR 2SC2655-Y
Q4741	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4742	405 035 1600	TR RN1211
or	405 107 8704	TR BA1A4Z
or	405 000 3400	TR DTC114TS
Q4820	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q4821	405 016 2206	TR 2SC2878-A
or	405 016 2305	TR 2SC2878-B
Q4901	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4902	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q4903	⚠ 405 077 9008	TR TIP29B
Q4904	⚠ 405 078 8109	TR TIP32B
Q4905	405 001 7209	TR 2SA1015-Y
Q4906	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q5001	405 035 1600	TR RN1211
or	405 107 8704	TR BA1A4Z
Q5002	405 035 1600	TR RN1211
or	405 107 8704	TR BA1A4Z
Q5003	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
Q5004	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
Q5005	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
Q5006	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
Q5007	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
Q5008	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
Q5200	405 091 4201	TR BN1L4Z
or	405 075 7907	TR DTA114TS
Q5201	405 057 7604	TR 2SA1175-FF
or	405 002 1107	TR 2SA1048-GR
or	405 002 5402	TR 2SA1175-EF
Q5202	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
or	405 000 3103	TR DTC114ES
R4706	401 008 7204	CARBON 2.2K JB 1/2W
R4741	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R4806	401 008 7204	CARBON 2.2K JB 1/2W
R4841	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R4844	⚠ 402 023 1703	FUSIBLE RES 100 J- 1/4W
R4909	⚠ 402 066 3108	FUSIBLE RES 27 J- 1/2W
R4910	⚠ 402 066 3207	FUSIBLE RES 47 J- 1/2W
RA500	614 217 1318	RESISTOR,10K X6
or	614 209 3641	RESISTOR,10K X6
RA501	614 209 3580	RESISTOR,10K X3
or	614 217 1288	RESISTOR,10K X3
RA502	614 217 1318	RESISTOR,10K X6
or	614 209 3641	RESISTOR,10K X6
RA503	614 209 3627	RESISTOR,10K X5
or	614 217 1301	RESISTOR,10K X5
X5000	614 215 5523	RESONATOR,4.19MHHZ,IC500

P.T PRIMARY P.C.BOARD ASSY

Ref. No.	Part No.	Description
73	614 241 0820	ASSY,PCB,P.T-PRI
	⚠ 614 017 8203	TERMINAL BOARD,AC-IN
FCLP5	⚠ 614 208 4540	FUSE HOLDER,FU999
FCLP6	⚠ 614 208 4540	FUSE HOLDER,FU999
L9999	⚠ 614 229 0422	INDUCTOR,FERITE,AC LINE

P.T SECONDARY P.C.BOARD ASSY

Ref. No.	Part No.	Description
74	614 241 0837	ASSY,PCB,P.T-SEC
CN770	614 020 6579	SOCKET,5P,TO MAIN-AMP.
or	614 223 9230	SOCKET,5P,TO MAIN-AMP.
CN771	614 020 1222	SOCKET,3P,TO MAIN-AMP.
ICP51	⚠ 614 205 2921	IC PROTECTOR ICP-N38
ICP52	⚠ 614 205 2921	IC PROTECTOR ICP-N38
R4997	⚠ 402 044 1607	RESISTOR 0.33 J- 1/2W
R4998	⚠ 402 044 1607	RESISTOR 0.33 J- 1/2W
R4999	⚠ 402 045 1309	RESISTOR 0.33 J- 1W

REGULATOR IC P.C.BOARD ASSY

Ref. No.	Part No.	Description
75	614 241 0844	ASSY,PCB,REG.-IC
CN750	614 020 6555	SOCKET,3P,MAIN-AMP.
or	614 223 9216	SOCKET,3P,MAIN-AMP.
IC902	⚠ 409 122 6202	IC NJM7812FA
or	⚠ 409 078 2402	IC L7812ML
or	⚠ 409 168 2107	IC UPC7812HF
or	⚠ 409 001 7603	IC AN7812F

PARTS LIST

SPEAKER TERMINAL P.C.BOARD ASSY

Ref. No.	Part No.	Description
76	614 241 0851	ASSY,PCB,SP TERMINAL
	614 051 9808	LUG,EARTH
C4170	403 057 0403	POLYESTER 0.01U K 50V
C4171	403 062 5103	POLYESTER 5600P K 50V
C4172	403 062 5103	POLYESTER 5600P K 50V
CN700	614 239 1655	TERMINAL,4P,SPEAKER
CN701	614 017 2553	PLUG,4P,TO FRONT
CN702	614 020 1239	SOCKET,4P,TO MAIN-AMP.
D4750	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
or	407 012 5809	DIODE 1SS176
FCLP1	614 208 4540	FUSE HOLDER,FOR FU701
FCLP2	614 208 4540	FUSE HOLDER,FOR FU701
FCLP3	614 208 4540	FUSE HOLDER,FOR FU801
FCLP4	614 208 4540	FUSE HOLDER,FOR FU801
R4750	401 010 5601	CARBON 5.6 JB 1/2W
R4751	401 009 5506	CARBON 330 JB 1/2W
R4850	401 010 5601	CARBON 5.6 JB 1/2W
R4851	401 009 5506	CARBON 330 JB 1/2W
RY700	614 242 7767	RELAY,SPEAKER

FRONT P.C.BOARD ASSY

Ref. No.	Part No.	Description
77	614 243 2365	ASSY,PCB,FRONT
	614 241 9151	REFLECTOR,LCD
	614 238 8037	SHEET,LCD
CN551	614 241 0752	SOCKET,17P,TO MAIN-AMP.
CN553	614 017 3833	PLUG,4P,TO SP TERMINAL
CN554	614 239 6193	JACK,PHONE
CN555	614 017 3826	PLUG,3P,TO PRE-AMP.
D5501	408 016 1200	LED SLZ-190B-09-T2,STAND BY
D5502	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D5503	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D5511	408 016 1002	LED SLZ-181C-15-T2,VIDEO
D5512	408 016 1002	LED SLZ-181C-15-T2,PHONO
D5513	408 016 1002	LED SLZ-181C-15-T2,TUNER
D5514	408 016 1002	LED SLZ-181C-15-T2,TAPE
D5515	408 016 1002	LED SLZ-181C-15-T2,CD
D5516	408 016 1101	LED SLZ-381C-15-T2,D'BASS
IC551	409 088 6209	IC LC7582
LCD51	614 238 3254	LCD(LIQUID CRYSTAL DISPLAY)
Q5501	405 001 0200	TR RN1202
or	405 078 2909	TR BA1A4M
or	405 000 3103	TR DTC114ES
Q5502	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q5503	405 105 7204	TR BA1L4Z
or	405 075 8409	TR DTC144TS
S5501	614 220 5648	SWITCH,TACT,POWER
S5502	614 220 5648	SWITCH,TACT,FUNCTION
S5514	614 220 5648	SWITCH,TACT,EQ-
S5515	614 220 5648	SWITCH,TACT,BASS EXPANDER
S5516	614 220 5648	SWITCH,TACT,DISPLAY
S5517	614 220 5648	SWITCH,TACT,FREQ/MEMO
S5518	614 220 5648	SWITCH,TACT,PRESET
S5519	614 220 5648	SWITCH,TACT,EQ+
VR551	614 239 7336	VR,ROTARY,BALANCE,100K(W)

FRONT SWITCH 1 P.C.BOARD ASSY

Ref. No.	Part No.	Description
78	614 241 0882	ASSY,PCB,FRONT SW 1
CN322	614 243 0903	ASSY,CONNECTOR-S,6P, TO MAIN-AMP

Ref. No.	Part No.	Description
D3203	408 013 2903	LED SLZ-181C-09-A-T1,REC
or	408 013 3009	LED SLZ-181C-09-B-T1,REC
D3204	408 008 4806	LED SLP-381C-51-AB,TAPE A
D3205	407 109 4203	LED SLP-181C-51-A,TAPE B
or	407 109 4104	LED SLP-181C-51-B,TAPE B
Q3201	405 000 0508	TR DTA114ES
or	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
Q3202	405 000 0508	TR DTA114ES
or	405 001 1108	TR RN2202
or	405 078 2305	TR BN1A4M
S3206	614 240 4539	SWITCH,TACT,A/B
S3207	614 220 5631	SWITCH,TACT,DIR
S3208	614 220 5631	SWITCH,TACT,DOLBY
S3209	614 220 5631	SWITCH,TACT,DUB
S3210	614 220 5631	SWITCH,TACT,REC MUTE
S3211	614 240 4539	SWITCH,TACT,REC

FRONT SWITCH 2 P.C.BOARD ASSY

Ref. No.	Part No.	Description
79	614 241 0875	ASSY,PCB,FRONT SW2
CN321	614 243 0897	ASSY,CONNECTOR-S,6P, TO MAIN-AMP.
D3201	408 013 3207	LED SLZ-381C-09-A-T1,FOW
or	408 013 3306	LED SLZ-381C-09-B-T1,FOW
D3202	408 013 3207	LED SLZ-381C-09-A-T1,REV
or	408 013 3306	LED SLZ-381C-09-B-T1,REV
S3201	614 220 5631	SWITCH,TACT,STOP
S3202	614 220 5631	SWITCH,TACT,FOW
S3203	614 220 5631	SWITCH,TACT,REV
S3204	614 220 5631	SWITCH,TACT,F.F
S3205	614 220 5631	SWITCH,TACT,REW

LED (LCD BACK LIGHT) P.C.BOARD ASSY

Ref. No.	Part No.	Description
80	614 239 9095	ASSY,PCB,LED
CN562	614 242 9488	ASSY,CONNECTOR-S,2P,TO FRONT
D5551	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5552	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5553	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5554	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5555	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5556	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5557	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5558	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL

PARTS LIST

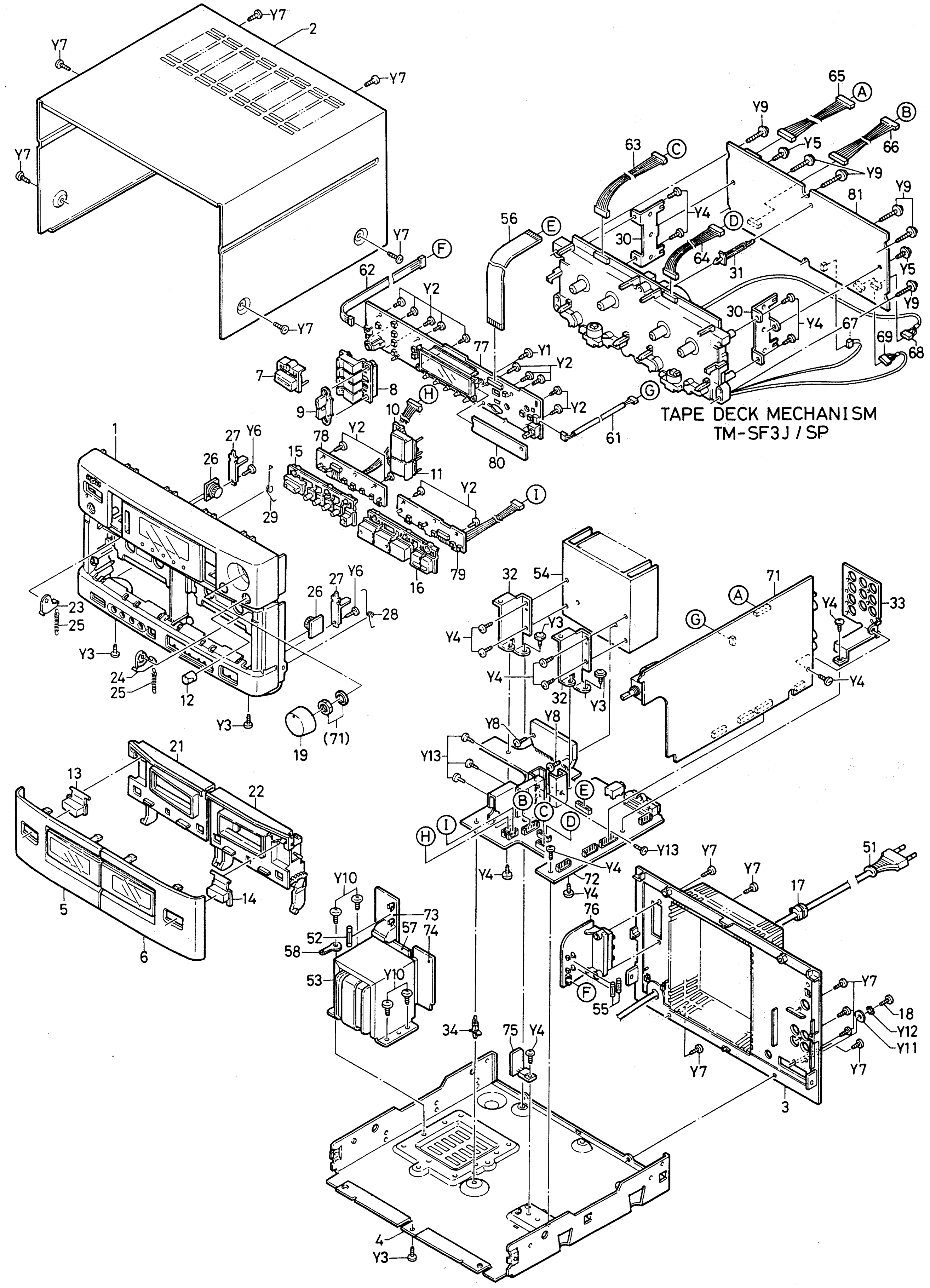
Ref. No.	Part No.	Description
D5559	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5560	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5561	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5562	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5563	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5564	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5565	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5566	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5567	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5568	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL
D5569	407 153 9803	LED CL-170G-CD-AH
or	407 153 9902	LED CL-170G-CD-BH
or	407 154 0007	LED CL-170G-CD-CH
D5570	407 153 9506	LED CL-170G-CD-AL
or	407 153 9605	LED CL-170G-CD-BL
or	407 153 9704	LED CL-170G-CD-CL

TAPE DECK AMPLIFIER P.C.BOARD ASSY

Ref. No.	Part No.	Description
81	614 243 1573	ASSY,PCB,DECK-AMP
	614 117 1098	SHIELD PLATE
C3303	403 058 2406	POLYESTER 0.015U J 50V
C3304	403 058 1102	POLYESTER 1500P K 50V
CN301	614 017 2607	PLUG,9P,TO PRE-AMP.
CN302	614 239 9378	PLUG,9P,TO MAIN-AMP.
CN303	614 016 4084	PLUG,2P,HIGH SPEED
CN331	614 017 2539	PLUG,2P,E HEAD
CN371	614 017 2553	PLUG,4P,P HEAD
CN372	614 017 2560	PLUG,5P,R/P HEAD
CN373	614 035 5949	SOCKET,3P,TAPE OUT
D3101	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3102	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3103	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3104	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D3105	407 005 4505	DIODE DS442X
or	407 013 7109	DIODE 1S2473
D3106	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
HS301	614 211 3592	HEAT SINK,BIAS LEAK
IC351	409 206 8207	IC CXA1331S

Ref. No.	Part No.	Description
IC370	409 121 8702	IC LA3246
IC371	409 207 1900	IC MLC4066B
or	409 003 9506	IC BU4066B
or	409 051 3501	IC TC4066BP
or	409 059 2605	IC UPD4066BC
IC374	409 214 1900	IC CXA1298AP
IC375	409 145 8405	IC UPC1330HA
L3300	614 221 8280	TRANS,OSC
L3700	614 028 4379	FILTER,1000UH
L3730	614 029 3807	MX COIL,85KHZ
L3731	614 210 3685	INDUCTOR,FERITE,3.3MH
L3750	614 029 3142	MX COIL,85KHZ
L3800	614 028 4379	FILTER,1000UH
L3830	614 029 3807	MX COIL,85KHZ
L3831	614 210 3685	INDUCTOR,FERITE,3.3MH
L3850	614 029 3142	MX COIL,1000UH
Q3101	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3102	405 000 2205	TR DTA144ES
or	405 078 2107	TR BN1L4M
or	405 103 9705	TR AN1L4M
or	405 001 1306	TR RN2204
Q3103	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3104	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3105	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3106	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3107	405 000 2205	TR DTA144ES
or	405 078 2107	TR BN1L4M
or	405 103 9705	TR AN1L4M
or	405 001 1306	TR RN2204
Q3108	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3109	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3160	405 000 6104	TR DTC144ES
or	405 078 3005	TR BA1L4M
or	405 103 9606	TR AA1L4M
or	405 001 0408	TR RN1204
Q3161	405 000 2205	TR DTA144ES
or	405 078 2107	TR BN1L4M
or	405 103 9705	TR AN1L4M
or	405 001 1306	TR RN2204
Q3300	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
Q3301	405 011 1907	TR 2SC1627-Y
Q3302	405 001 7001	TR 2SA1015-GR
or	405 005 2002	TR 2SA733-P
Q3303	405 012 2002	TR 2SC1815-GR
or	405 020 7204	TR 2SC945A-K
or	405 011 8609	TR 2SC1740S-S
Q3730	405 033 6805	TR 2SD1468S-S
Q3830	405 033 6805	TR 2SD1468S-S

EXPLODED VIEW (TAPE DECK & AMPLIFIER UNIT)


Y7
2
Y7
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Y7
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65
Ⓐ
Y9
Ⓑ
63
Ⓒ
Y5
66
Y9
Y9
81
Y4
30
Ⓓ
56
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Ⓕ
62
Y2
64
31
Y5
Y9
30
Y4
67
69
68
77
Y1
Y2
Y2
7
8
Ⓗ
9
10
Ⓖ
Y2
TAPE DECK MECHANISM
TM-SF3J / SP
61
80
1
27
Y6
26
15
78
Y2
11
Y2
Ⓘ
29
16
79
32
54
71
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Y4
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26
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Y6
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25
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Y3
Y4
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Y3
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Y10
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Y7
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Y12
Y11
34
75
Y4
Y7
Y7
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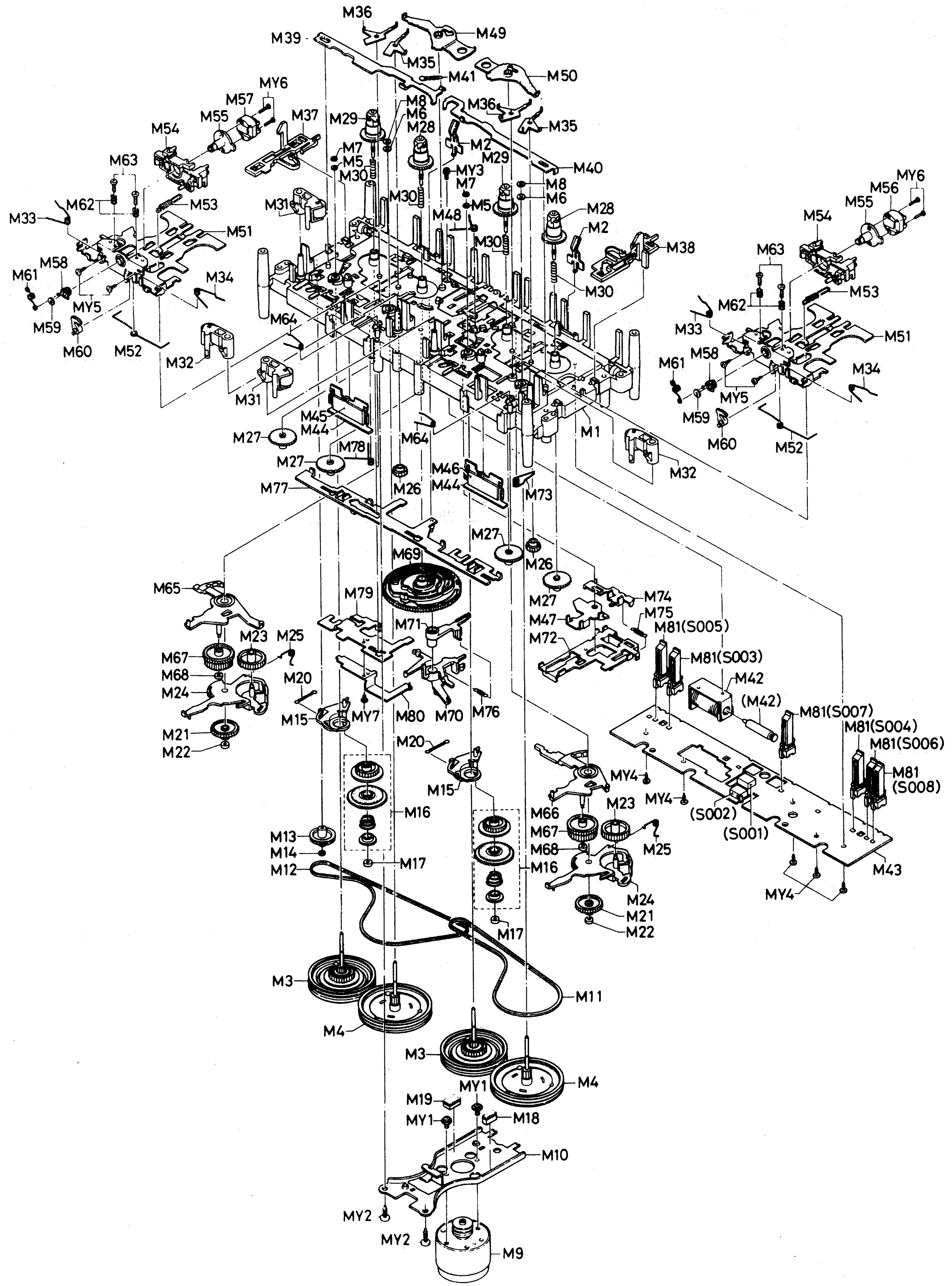
6
14
4
Y3

PARTS LIST

Ref. No.	Part No.	Description
SVR30	614 003 6190	SEMI-FIXED V.R,20K(B)
SVR31	614 003 6190	SEMI-FIXED V.R,20K(B)
SVR32	614 003 6190	SEMI-FIXED V.R,20K(B)
SVR33	614 003 6190	SEMI-FIXED V.R,20K(B)
SVR34	614 003 6183	SEMI-FIXED V.R,10K(B)
SVR35	614 003 6183	SEMI-FIXED V.R,10K(B)
SVR36	614 003 6213	SEMI-FIXED V.R,50K(B)
SVR37	614 003 6213	SEMI-FIXED V.R,50K(B)

EXPLODED VIEW (TAPE DECK MECHANISM)



PARTS LIST

TAPE DECK MECHANISM (TM-SF3J/SP)

Ref. No.	Part No.	Description
TM01	614 219 9657	ASSY,CHASSIS,TAPE DECK
TM02	614 195 9139	SPRING PLATE,CASETTE PRES
TM03	614 219 9671	ASSY,FLYWHEEL,REV,D2.0
TM04	614 219 9688	ASSY,FLYWHEEL,NOR,D2.2
TM05	412 034 4709	SPECIAL WASHER,REV FW FIX
TM06	412 014 3005	SPECIAL WASHER,NOR FW FIX
TM07	412 029 8200	SPECIAL WASHER,REV OIL PRF
TM08	412 012 7005	SPECIAL WASHER,NOR OIL PRF
TM09	614 219 9596	ASSY,COMMUTATE MOTOR
TM10	614 223 8677	BRACKET-E,MOTOR
TM11	614 219 9954	BELT,SQUARE,A-MECHA DRIVE
TM12	614 219 9961	BELT,SQUARE,B-MECHA DRIVE
TM13	614 195 8644	PULLEY,BELT DUMMY
TM14	412 022 0607	SPECIAL WASHER,D.PULLEY
TM15	614 220 0001	LEVER,PLAY GEAR
TM16	614 220 1657	ASSY,GEAR,PLAY CLUTCH
TM17	614 220 0261	PIPE,PLAY SLIP FIX
TM18	614 224 5293	CUSHION,BELT TUTCH(B)
TM19	614 224 5309	CUSHION,BELT TUTCH(A)
TM20	614 236 5397	SPRING,TENS,PLAY LEVER RSET
TM21	614 219 9817	GEAR,RELAY FIXED
TM22	614 220 0261	PIPE,GEAR FIX
TM23	614 220 1664	ASSY,GEAR,TAKE UP MOVE
TM24	614 220 0025	LEVER,TAKE UP MOVE B
TM25	614 220 1268	SPRING,WIRE,B MECHA REEL CHANGE CLIC
TM26	614 219 9848	GEAR,REEL RELAY
TM27	614 219 9831	GEAR,REEL
TM28	614 219 9886	REEL,RIGHT
TM29	614 219 9893	REEL,LEFT
TM30	614 220 1251	SPRING,COMP,BACK TENSION L
TM31	614 219 9695	ASSY,LEVER,PINCH,LEFT
TM32	614 219 9701	ASSY,LEVER,PINCH,LIGHT
TM33	614 229 7520	SPRING,WIRE,PINCH LEFT
TM34	614 220 1275	SPRING,WIRE,PINCH RIGHT
TM35	614 220 0070	LEVER,BRAKE R
TM36	614 220 0087	LEVER,BRAKE L
TM37	614 220 0162	SLIDE,DOOR LOCK A
TM38	614 220 0179	SLIDE,DOOR LOCK B
TM39	614 220 0247	SLIDE,EJECT RELAY A
TM40	614 220 0254	SLIDE,EJECT RELAY B
TM41	614 220 1190	SPRING,TENS,EJECT RELAY
TM42	614 220 0339	MAGNETIC COIL,SOLENOID
TM43	614 220 1626	ASSY,PCB,MECHA
TM44	614 219 9770	SHIELD,HEAD PCB
TM45	614 222 8968	PCB,P LEAD RELAY
TM46	614 222 8975	PCB,R/P LEAD RELAY
TM47	614 220 0148	LEVER,D.SLIDE LOCK
TM48	614 220 1312	SPRING,WIRE,LOCK LEVER
TM49	614 232 5414	LEVER,HEAD SLIDE UP A
TM50	614 220 0131	LEVER,HEAD SLIDE UP B
TM51	614 220 1688	ASSY,SLIDE,HEAD
TM52	614 220 1329	SPRING,WIRE,HEAD SLIDE
TM53	614 220 1183	SPRING,TENS,HEAD SILED CONT
TM54	614 219 9763	GUIDE,TAPE
TM55	614 220 1633	ASSY,BRACKET-E,HEAD LOCATE
TM56	614 220 0292	HEAD,REC/PLAY
TM57	614 220 0308	HEAD,PLAY
TM58	614 220 4900	GEAR,HEAD ROTARY
TM59	412 012 7609	SPECIAL WASHER,HEAD THRUST
TM60	614 220 0063	LEVER,SECTOR
TM61	614 220 1336	SPRING,WIRE,HEAD CLIC
TM62	614 226 5543	SPRING,COMP,AZIMUTH COIL
TM63	412 031 2005	SPECIAL SCREW,AZIMUTH BISS
TM64	614 221 8235	SPRING,WIRE,HEAD SLIDE GND
TM65	614 219 9992	LEVER,R/F A
TM66	614 220 0032	LEVER,R/F B
TM67	614 219 9855	GEAR,R/F MOVE
TM68	614 220 0261	PIPE,R/F MOVE GEAR FIX
TM69	614 219 9879	GEAR,D.CAM
TM70	614 220 0049	LEVER,MAIN TRIGGER
TM71	614 220 0056	LEVER,SUB TRIGGER
TM72	614 223 8745	SLIDE,DRIVE
TM73	614 220 1299	SPRING,WIRE,D.SLIDE RESET
TM74	614 220 0186	SLIDE,A/B MECHA CHANGE
TM75	614 229 7506	SPRING,TENS,CHANGE SLIDE
TM76	614 229 7513	SPRING,TENS,TRIGGER INNER FORCE
TM77	614 219 9718	ASSY,SLIDE,HEAD CHANGE
TM78	614 220 1305	SPRING,WIRE,CHANGE SLIDE
TM79	614 220 0209	SLIDE,REEL CHANGE NO.1
TM80	614 219 9725	ASSY,SLIDE,REEL CHANGE NO.2
TM81	614 220 0346	SWITCH,LEAF,PACK1,S003
or	614 220 0346	SWITCH,LEAF,PACK2,S004
or	614 220 0346	SWITCH,LEAF,CROM1,S005
or	614 220 0346	SWITCH,LEAF,CROM2,S006
or	614 220 0346	SWITCH,LEAF,URFWD,S007
or	614 220 0346	SWITCH,LEAF,URREV,S008
TM82	614 225 6916	CUSHION,RUBBER,SILEN
TM83	614 226 6854	CUSHION,RF LEVER TOUTCH
TM84	614 229 1313	CUSHION,RUBBER,DRIVE SLIDE WIRE STOPPER
TM85	614 228 5053	CUSHION,RUBBER,H.S. STOPPER
TM86	614 228 2311	CUSHION,RF LEVER,SILEN

FIXING PARTS FOR TAPE DECK MECHANISM

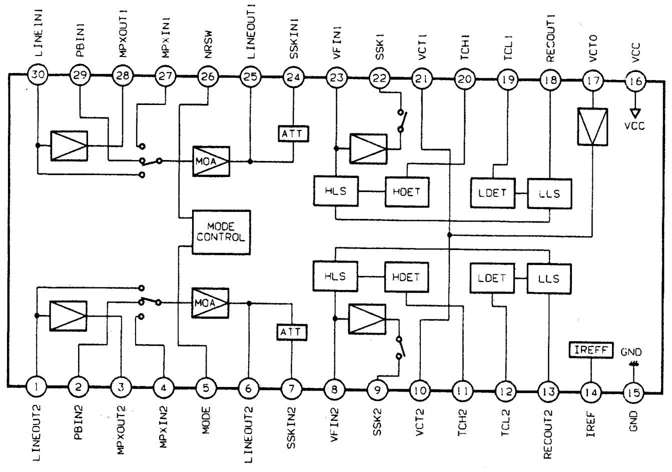
Ref. No.	Part No.	Description
TY01	411 102 6300	SCR PAN-FLG 2.6X2.8, MOTOR
TY02	411 021 6405	SCR S-TPG BIN 3X8, B-MOTOR
TY03	411 044 7205	SCR PAN+SW 2X4, SOLENOID
TY04	411 021 0809	SCR S-TPG BIN 2X6
TY05	411 022 7807	SCR S-TPG PAN 2X6,TAPE GUID
TY06	411 124 9204	SCR PAN PCS 1.6X6, HEAD FIX
TY07	411 018 6401	SCR PAN PCS 2X2, REEL CH SLIDE NO.2

TAPE DECK MECHANISM P.C.BOARD ASSY

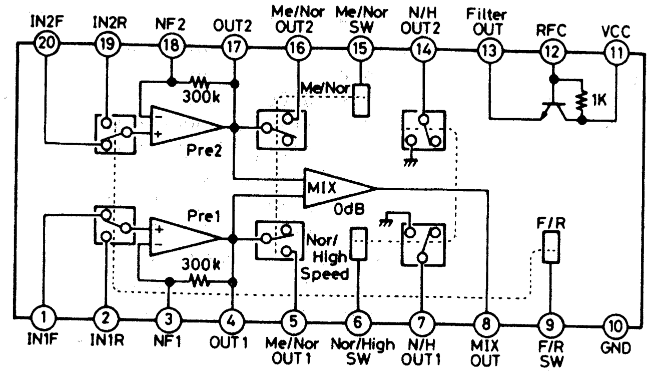
Ref. No.	Part No.	Description
TM43	614 220 1626	ASSY,PCB,MECHANISM
CN001	614 017 3871	PLUG,8P,CN001,TAPE A
CN002	614 235 3646	PLUG,8P,CN002,TAPE B
CN003	614 035 4935	SOCKET,4P,CN003,TO MOTOR
D001	407 004 9105	DIODE DSF10C
or	407 012 3300	DIODE 1SR35-200A
D002	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D003	407 051 6706	ZENER DIODE GZS5.1Y
or	407 053 6308	ZENER DIODE MTZ5.1B
PH001	407 131 9900	PHOTO COUPLE SPI-335-34-C
PH002	407 131 9900	PHOTO COUPLE SPI-335-34-C
ICP01	614 205 2884	IC PROTECTOR ICP-N10
Q001	⚠ 405 099 0908	TR 2SB621-S
Q002	405 002 1107	TR 2SA1048-GR
or	405 006 1905	TR 2SA933S-S
Q003	⚠ 405 099 0908	TR 2SB621-S
S001	614 224 2575	SWITCH,LEVER,PLAY
S002	614 224 2575	SWITCH,LEVER,STOP
SV001	614 003 6190	SEMI-FIXED V.R,20K(B)

IC BLOCK DIAGRAM (TAPE DECK)

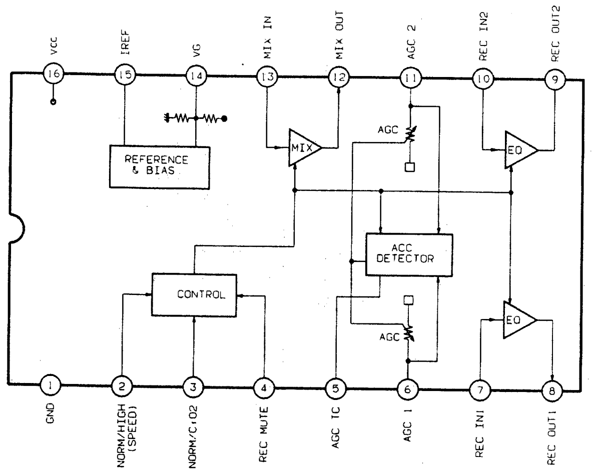
IC351 CXA1331S (Dolby-B / C Noise Reduction System)


LINEIN1
PBIN1
MPXOUT1
MPxIN1
NRSW
LINEOUT1
SSKIN1
VFIN1
SSK1
VCT1
TCH1
TCL1
RECOUT1
VCTO
VCC
ATT
MOA
HLS
HDET
LDET
LLS
MODE CONTROL
IREFF
GND
LINEOUT2
PBIN2
MPXOUT2
MPXIN2
MODE
LINEOUT2
SSKIN2
VFIN2
SSK2
VCT2
TCH2
TCL2
RECOUT2
IREF
GND

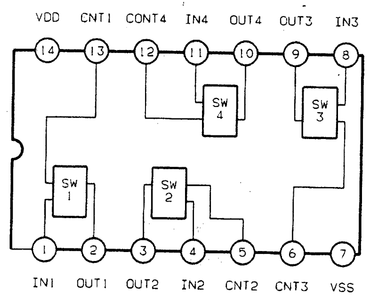
IC370 LA3246 (Pre & Mixing Amplifier with Electrical Switch)


IN2F
IN2R
NF2
OUT2
Me/Nor OUT2
Me/Nor SW
N/H OUT2
Filter OUT
RFC
VCC
300k
Pre2
Me/Nor
1K
MIX
0dB
Pre1
300k
Nor/ High Speed
F/R
IN1F
IN1R
NF1
OUT1
Me/Nor OUT1
Nor/High SW
N/H OUT1
MIX OUT
F/R SW
GND

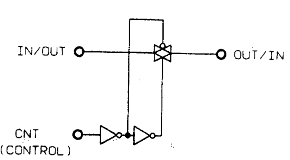
IC374 CXA1298AP (Equalizer Amplifier for Record)


VCC
IREF
VG
MIX IN
MIX OUT
AGC 2
REC IN2
REC OUT2
REFERENCE & BIAS
MIX
AGC
EQ
ACC DETECTOR
CONTROL
AGC
EQ
GND
NORM/HIGH (SPEED)
NORM/C,O2
REC MUTE
AGC TC
AGC 1
REC IN1
REC OUT1

IC371 MLC4066B (Quad Electronic Switch)

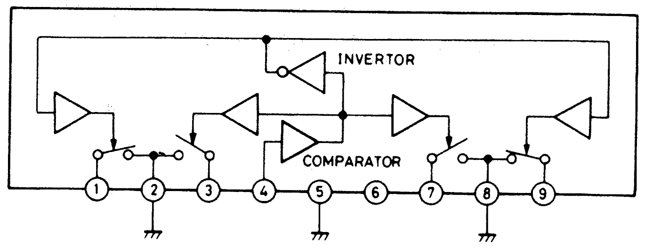

VDD
CNT1
CONT4
IN4
OUT4
OUT3
IN3
SW 4
SW 3
SW 1
SW 2
IN1
OUT1
OUT2
IN2
CNT2
CNT3
VSS

LOGIC DIAGRAM AND TRUTH TABLE


IN/OUT
OUT/IN
CNT (CONTROL)

CONTROL	SWITCH
0=VSS	OFF
1=VDD	ON

IC375 µPC1330H (2-ch Head Select Switch)


INVERTOR
COMPARATOR

IC BLOCK DIAGRAM (AMPLIFIER)

IC500 µPD75516GF-412-3B9 (Micro Processor)

PIN No.	SIGNAL NAME	I / O	DESCRIPTION	ACTIV	P OFF
1	AN0	I	AD Key Input	---	---
2	AVref	I	Reference Voltage of AD	---	---
3	VDD	I	+ 5V	---	---
4	VDD(VPP)	I	Connect VDD for PROM	---	---
5	PULL UP 1	O	Set Pull up Signal of AVref Backup Time : LOW	H	H
6	L / R	O	L / R Selection Control for BA3826S	L	L
7	BAND RESET	O	Reset Control for BA3826S	H	L
8	BAND A	I / O	Band Pass A Control of BA3826S	L	L
9	BAND B	I / O	Band Pass B Control of BA3826S	L	L
10	BAND C	I / O	Band Pass C Control of BA3826S	L	L
11	BASS	O	BASS Xpander Control Signal (LED)	L	H
12	DO SURR ON / OFF	O	Dolby Surround Control Signal (LED)	L	H
13	REAR VOL UP	O	Rear Volume Up Signal	H	L
14	REAR VOL DOWN	O	Rear Volume Down Signal	H	L
15	CK7522	O	Equalizer Clock of LC7522	H	L
16	DI7522	O	Data In from LC7522	H	L
17	NC	I	Not Used (VSS)	---	---
18	DA7522	O	Data Signal to LC7522	H	L
19	CK7522	O	Clock Signal to LC7522	H	L
20	NC		Not Used (VSS)	---	---
21	CE7522	O	CE(Chip Enable) of LC7522	H	L
22	FUNC C	O	C Control Signal of Function IC BU4051	H	L
23	FUNC B	O	B Control Signal of Function IC BU4051	H	L
24	FUNC A	O	A Control Signal of Function IC BU4051	H	L
25	DO ON / OFF	O	Dolby ON / OFF Control Signal H : OFF L : ON	H	L
26	DO B / C	O	Dolby B / C Control Signal H : B L : C	H	L
27	SPEED	O	High Speed Signal for Motor H : HIGH	H	L
28	PLUNGER	O	Plunger ON Signal	H	L
29	KARAOKE	I	Not Used (VSS)	---	---
30	AMSS	I	Not Used (VSS)	---	---
31	PACK A	I	Pack A Detection Signal	L : ON	
32	STOP SW	I	Stop Switch Detection Signal	L : ON	
33	VSS	---	Ground	---	---
34	G REV	I	Anti Record Detection Signal for Reverse Direction	L : ON	
35	G FWD	I	Anti Record Detection Signal for Forward Direction	L : ON	
36	PACK B	I	Pack B Detection Signal	L : ON	
37	PLAY SW	I	Play Switch Detection Signal	L : ON	
38	PULL UP 2	O	Set Pull up Signal of AVref	H	L
39	MOTOR	O	Motor ON Signal	H	L
40	SP RELAY	O	Speaker Relay ON Signal	H	L
41	-20dB MUTE	O	-20dB Muting Signal	H	L
42	-∞ MUTE	O	-∞ Muting Signal	H	L
43	POWER ON	O	Power ON Signal	H	L
44	VOL UP	O	Volume Up Signal	H	L
45	VOL DOWN	O	Volume Down Signal	H	L
46	REEL B	I	Reel B Rotate Detection Signal (Edge)		
47	REEL A	I	Reel A Rotate Detection Signal (Edge)		
48	AMSS	I	Input of Music Brank Brank : L		
49	IR	I	Infrared Ray Receiving (Remocon) Signal		
50	CT DATA	I	Micon Data from CT Unit		
51	NC		Not Used (VSS)	---	---
52	CT CLK	I	Clock from CT Unit		
53	P DOWN	I	AC ON / OFF Detection Signal H : ON		
54	VSS	---	Ground		
55	NC	I	Not Used (VSS)		
56	XT2	O	Not Used (VSS)		
57	IC	---	Ground		
58	X1	I	X'tal In (4.19 MHz)		
59	X2	O	X'tal Out (4.19 MHz)		
60	RESET	I	Reset Signal	L	
61	BUSY	O	Busy Signal	H	L
62	OSC	O	OSC Signal	H : REC	L
63	REV IND	O	Reverse Indicator (LED) Signal	L	H
64	1 / 2 IND	O	Deck A / B Selection Signal	L : B	L

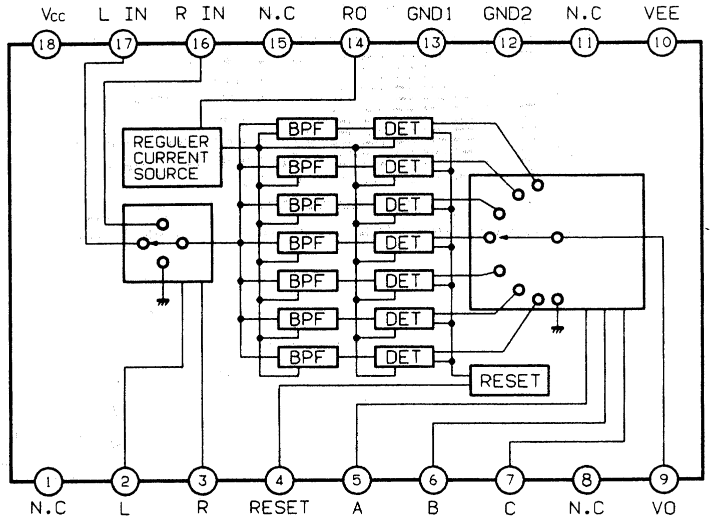
ACTIV : Active Level   P OFF : Power Off Time Level

IC BLOCK DIAGRAM (AMPLIFIER)

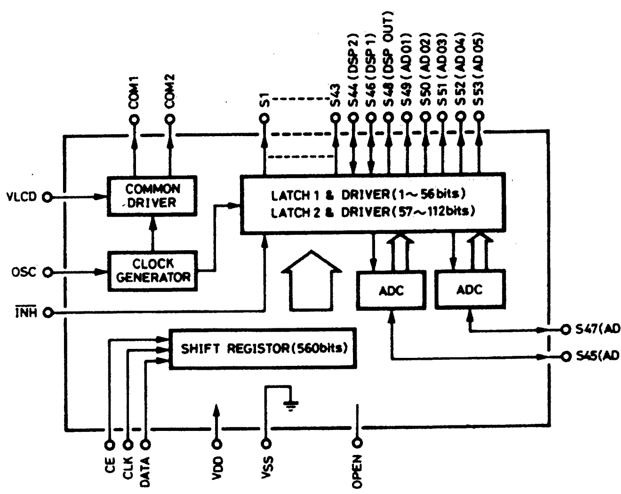
PIN No.	SIGNAL NAME	I/O	DESCRIPTION	ACTIV	P OFF
65	FOR IND	O	Forward Indicator (LED) Signal	L	H
66	DOLBY R/P	O	Dolby Rec/Play Control Signal	H : REC	L
67	C STOP	O	CD Stop Signal	L	H
68	DUB IN/OUT	O	Dubbing IN/OUT Selection Signal	L	H
69	P MUTE	O	Play Muting Signal	H	H
70	R MUTE	O	Record Muting Signal	H	H
71	REC IND	O	Record Indicator (LED) Signal	L	H
72	DISCO PARTY	O	Not Used (VSS)		
73	A-VSS		AD Ground	---	---
74	PHONO OR VIDEO	I	Not Used (VSS)		
75	MOTOR OR ELECT	I	Not Used (VDD)		
76	REMOCON KEY	I	Not Used (VDD)		
77	NC	I	Not Used (VSS)		
78	BAND LEVEL IN	I	Band Pass VO-IN from BA3826S		
79	VOL LEVEL DC IN	I	Volume Level DC OUT		
80	AN1	I	AD Key Input		

ACTIV : Active Level   P OFF : Power Off Time Level

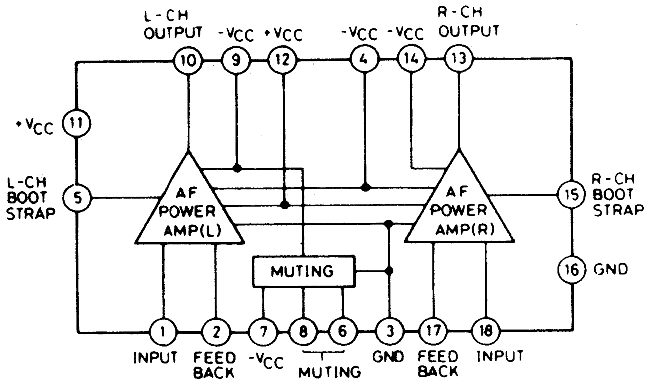
IC501 BA3826S (Band Pass Filter for Spectrum Analyzer)


Vcc
L IN
R IN
N.C
RO
GND1
GND2
N.C
VEE
18
17
16
15
14
13
12
11
10
REGULER CURRENT SOURCE
BPF
DET
RESET
1
2
3
4
5
6
7
8
9
N.C
L
R
RESET
A
B
C
N.C
VO

IC551 LC7582 (LCD Driver)

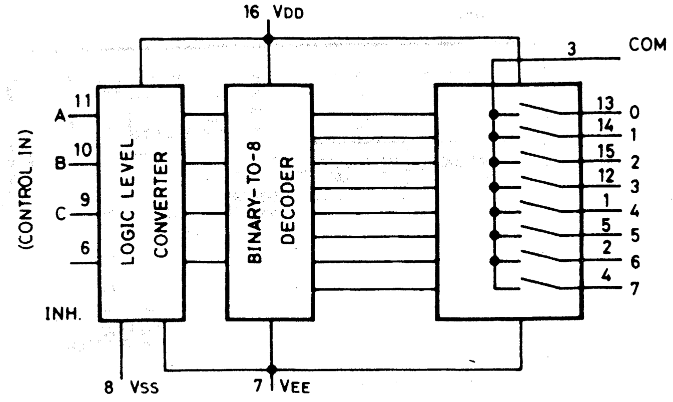

COM1
COM2
S1
S43
S44 (DSP2)
S46 (DSP1)
S48 (DSP OUT)
S49 (AD01)
S50 (AD02)
S51 (AD03)
S52 (AD04)
S53 (AD05)
VLCD
OSC
INH
COMMON DRIVER
CLOCK GENERATOR
LATCH 1 & DRIVER (1~56bits)
LATCH 2 & DRIVER (57~112bits)
ADC
ADC
SHIFT REGISTOR (560bits)
S47 (AD1)
S45 (AD2)
CE
CLK
DATA
VDD
VSS
OPEN

IC700 STK4162MKII (AF Power Amplifier)


L-CH OUTPUT
-VCC
+VCC
-VCC
-VCC
R-CH OUTPUT
10
9
12
4
14
13
+VCC
11
L-CH BOOT STRAP
5
AF POWER AMP(L)
AF POWER AMP(R)
MUTING
15
R-CH BOOT STRAP
16
GND
1
2
7
8
6
3
17
18
INPUT
FEED BACK
-VCC
MUTING
GND
FEED BACK
INPUT

IC BLOCK DIAGRAM (AMPLIFIER)

IC702 · 802 BU4051B (3-Input 8-Channel Multiplexer / De-Multiplexer)

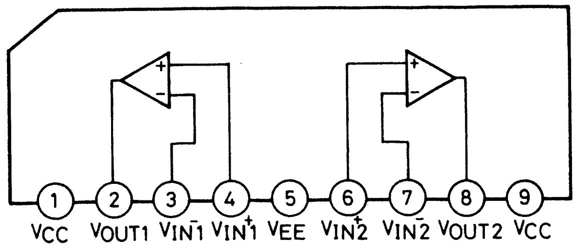

16 VDD
3 COM
(CONTROL IN)
A
11
B
10
C
9
6
INH.
LOGIC LEVEL CONVERTER
BINARY-TO-8 DECODER
13
14
15
12
1
5
2
4
0
1
2
3
4
5
6
7
8 VSS
7 VEE

TRUTH TABLE

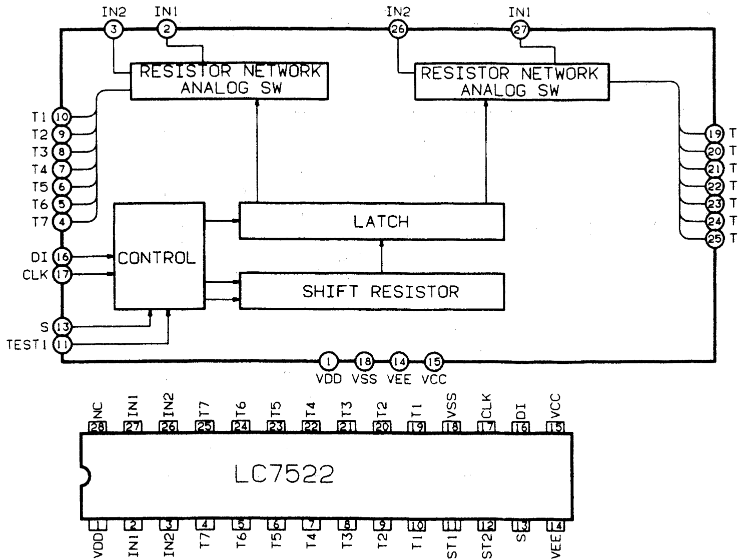
CONTROL INPUTS				(ON) CHANNEL
INHIBIT	C	B	A	4051
L	L	L	L	0
L	L	L	H	1
L	L	H	L	2
L	L	H	H	3
L	H	L	L	4
L	H	L	H	5
L	H	H	L	6
L	H	H	H	7
H	X	X	X	NONE

X : DON'T CARE

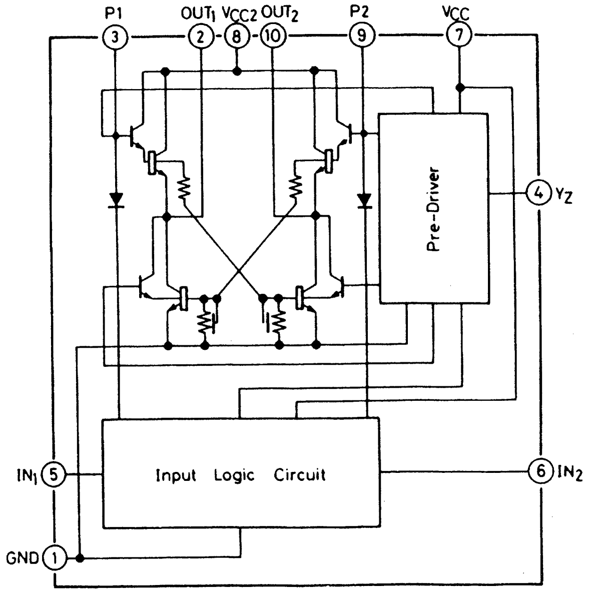
IC701 · 703 · 704 · 706 · 711 LA6458S (Dual Operational Amplifier)


1
2
3
4
5
6
7
8
9
VCC
VOUT1
VIN1
VIN1
VEE
VIN2
VIN2
VOUT2
VCC

IC705 LC7522 (7-Segment Electronic Variable Resistor)


IN2
IN1
IN2
IN1
3
2
26
27
RESISTOR NETWORK ANALOG SW
RESISTOR NETWORK ANALOG SW
T1 10
T2 9
T3 8
T4 7
T5 6
T6 5
T7 4
DI 16
CLK 17
S 13
TEST1 11
CONTROL
LATCH
SHIFT RESISTOR
19 T1
20 T2
21 T3
22 T4
23 T5
24 T6
25 T7
1
18
14
15
VDD
VSS
VEE
VCC
LC7522
28 NC
27 IN1
26 IN2
25 T7
24 T6
23 T5
22 T4
21 T3
20 T2
19 T1
18 VSS
17 CLK
16 DI
15 VCC
1 VDD
2 IN1
3 IN2
4 T7
5 T6
6 T5
7 T4
8 T3
9 T2
10 T1
11 TEST1
12 TEST2
13 S
14 VEE

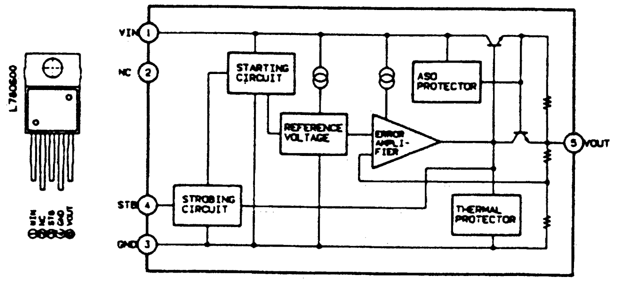
IC707 LB1641 (Volume Motor Driver)


P1
OUT1
VCC2
OUT2
P2
VCC
3
2
8
10
9
7
Pre-Driver
4 YZ
IN1 5
Input Logic Circuit
6 IN2
GND 1

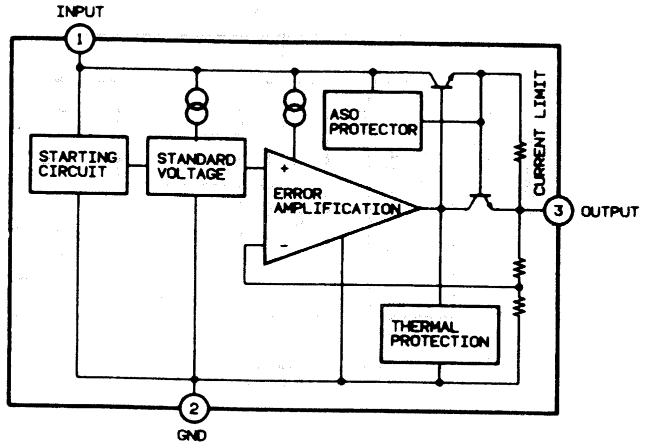
Input		Output		Action
IN_1	IN_2	OUT_1	OUT_2	
0	0	0	0	Brake
1	0	1	0	Normal (Reverse) Rotary
0	1	0	1	Reverse (Normal) Rotary
1	1	0	0	Brake

IC BLOCK DIAGRAM (AMPLIFIER)

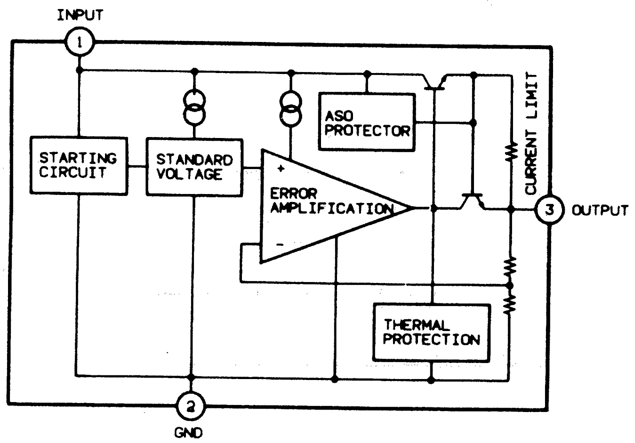
IC900・903 L78OS12 (5-Terminal Voltage Regulator)


L78OS00
VIN
NC
STB
GND
VOUT
1
2
3
4
5
STARTING CIRCUIT
REFERENCE VOLTAGE
ERROR AMPLI-FIER
ASO PROTECTOR
STROBING CIRCUIT
THERMAL PROTECTOR

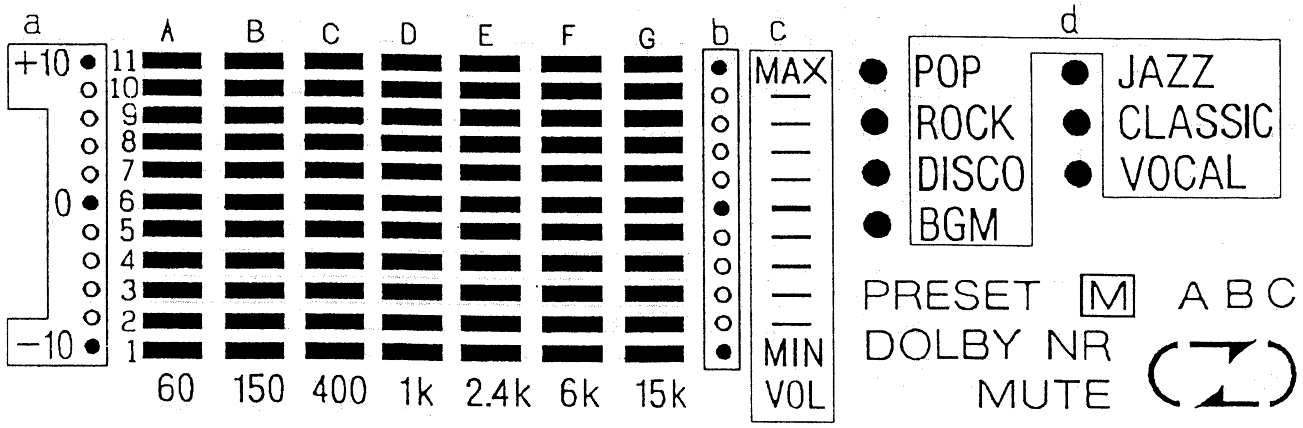
IC901 L78M05 (3-Terminal Voltage Regulator)

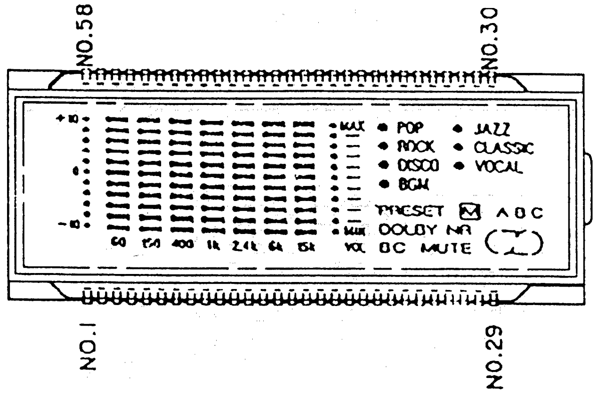

INPUT
1
STARTING CIRCUIT
STANDARD VOLTAGE
ERROR AMPLIFICATION
ASO PROTECTOR
CURRENT LIMIT
3
OUTPUT
THERMAL PROTECTION
2
GND

IC902 L7812ML (3-Terminal Voltage Regulator)


INPUT
1
STARTING CIRCUIT
STANDARD VOLTAGE
ERROR AMPLIFICATION
ASO PROTECTOR
CURRENT LIMIT
3
OUTPUT
THERMAL PROTECTION
2
GND

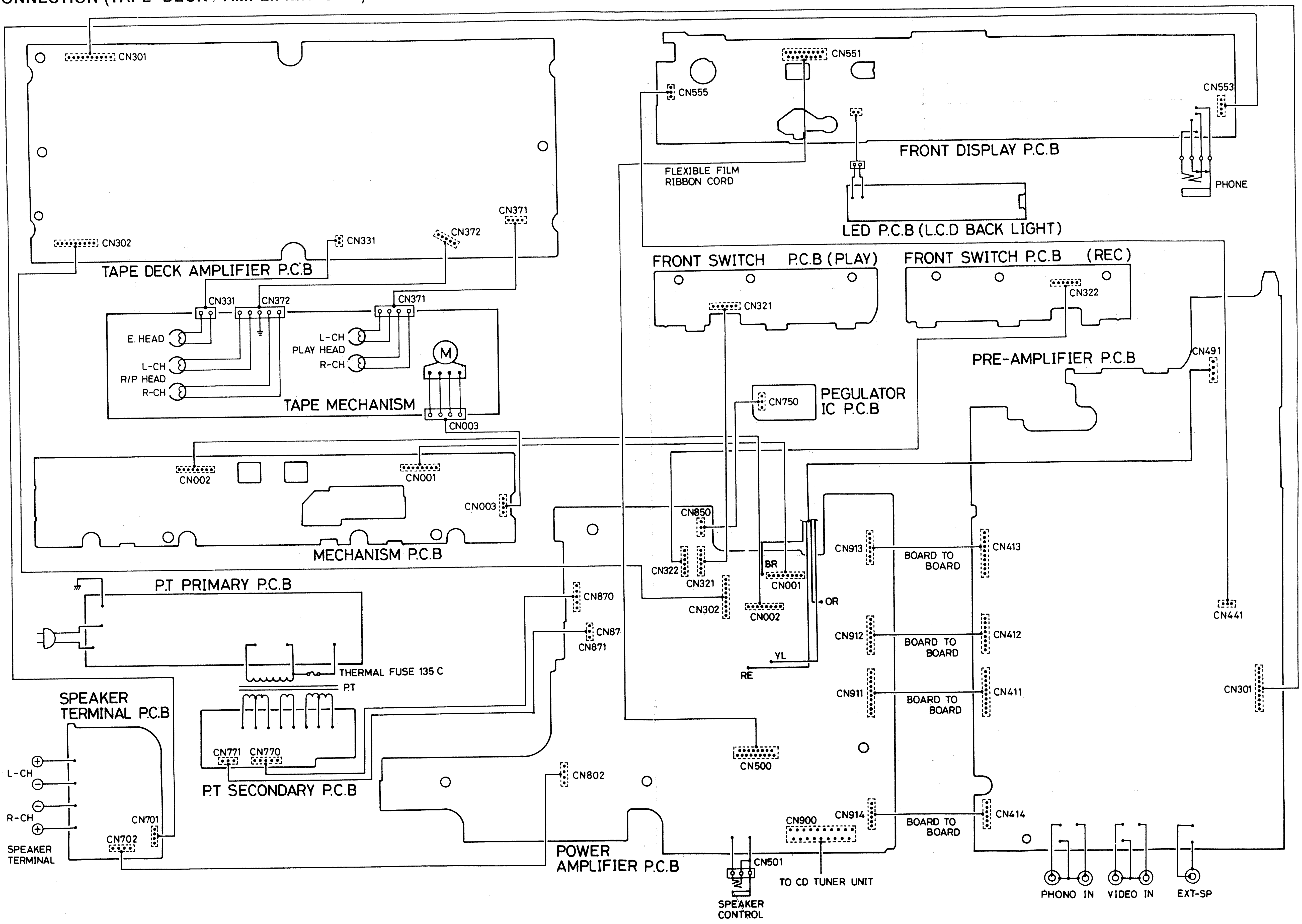
LCD (SPECTRUM ANALYZER)


a
A
B
C
D
E
F
G
b
c
d
+10
0
−10
11
10
9
8
7
6
5
4
3
2
1
60
150
400
1k
2.4k
6k
15k
MAX
MIN
VOL
POP
ROCK
DISCO
BGM
JAZZ
CLASSIC
VOCAL
PRESET
M
A B C
DOLBY NR
MUTE

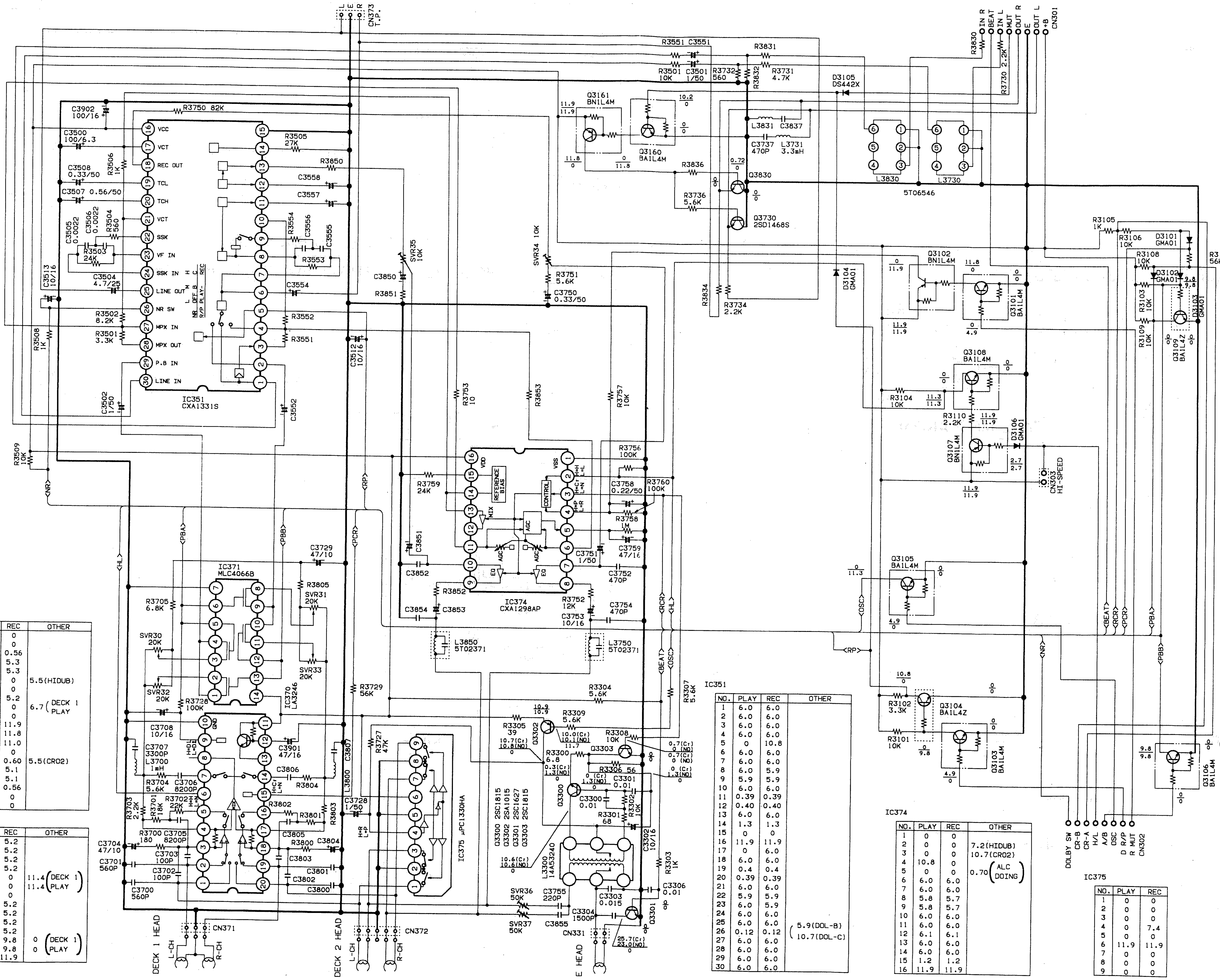

NO.58
NO.30
NO.1
NO.29

NO.	COM. 1	COM. 2
1		a
2	A5	B5
3	A4	B4
4	A3	B3
5	A2	B2
6	A1	B1
7		60・150
8	C5	D5
9	C4	D4
10	C3	D3
11	C2	D2
12		400・1K
13	C1	D1
14	E5	F5
15	E4	F4
16	E3	F3
17		2.4K・6K
18	E2	F2
19	E1	F1
20	G4	
21	G3	
22	G1	15K
23	G2	c
24		b
25	G5	DOLBY NR
26	G6	PRESET
27	(	MUTE
28	→	←
29	M	)
30	A	● (JAZZ)
31	B	● (CLAS)
32	C	● (VOCA)
33		● (KARA)
34	G7	d
35	G8	● (BGM)
36	G9	● (DISC)
37	G10	● (ROCK)
38	G11	● (POP)
39	E8	F8
40	E9	F9
41	E10	F10
42	E11	F11
43	E7	F7
44	E6	F6
45	C9	D9
46	C9	D9
47	C10	D10
48	C11	D11
49	C8	D8
50	C7	D7
51	C6	D6
52	A10	B10
53	A11	B11
54	A8	B8
55	A7	B7
56	A6	B6
57	COM. 1	
58		COM. 2

WIRING CONNECTION (TAPE DECK / AMPLIFIER UNIT)


CN301
CN302
CN331
CN372
CN371
TAPE DECK AMPLIFIER P.C.B
CN331
CN372
CN371
E. HEAD
L-CH
R/P HEAD
R-CH
L-CH
PLAY HEAD
R-CH
M
TAPE MECHANISM
CN003
CN002
CN001
CN003
MECHANISM P.C.B
P.T PRIMARY P.C.B
THERMAL FUSE 135 C
P.T
SPEAKER
TERMINAL P.C.B
L-CH
R-CH
SPEAKER
TERMINAL
CN701
CN702
CN771
CN770
P.T SECONDARY P.C.B
CN551
CN555
CN553
FLEXIBLE FILM
RIBBON CORD
FRONT DISPLAY P.C.B
PHONE
LED P.C.B (L.C.D BACK LIGHT)
FRONT SWITCH P.C.B (PLAY)
CN321
FRONT SWITCH P.C.B (REC)
CN322
PRE-AMPLIFIER P.C.B
CN491
CN750
PEGULATOR
IC P.C.B
CN850
CN322
CN321
BR
CN001
CN302
CN002
OR
CN870
CN87
CN871
YL
RE
CN913
BOARD TO
BOARD
CN413
CN912
BOARD TO
BOARD
CN412
CN911
BOARD TO
BOARD
CN411
CN441
CN301
CN500
CN802
CN900
CN914
BOARD TO
BOARD
CN414
POWER
AMPLIFIER P.C.B
CN501
SPEAKER
CONTROL
TO CD TUNER UNIT
PHONO IN
VIDEO IN
EXT-SP

SCHEMATIC DIAGRAM (TAPE DECK AMPLIFIER)


CN373 T.P.
L E R
IC351 CXA1331S
VCC
VCT
REC OUT
TCL
TCH
VCT
SSK
VF IN
SSK IN
LINE OUT
NR SW
MPX IN
MPX OUT
P.B IN
LINE IN
IC374 CXA1298AP
VDD
VSS
REFERENCE BIAS
CONTROL
MIX
AGC
EQ
IC371 MLC4066B
IC370 LA3246
IC375 µPC1330HA
L3300 14A53240
Q3300 2SC1815
Q3302 2SA1015
Q3301 2SC1627
Q3303 2SC1815
Q3161 BN1L4M
Q3160 BA1L4M
Q3830
Q3730 2SD1468S
D3105 DS442X
L3830
L3730
5T06546
L3850 5T02371
L3750 5T02371
Q3102 BN1L4M
Q3101 BA1L4M
Q3108 BA1L4M
Q3107 BN1L4M
Q3105 BA1L4M
Q3104 BA1L4Z
Q3103 BA1L4M
Q3106 BA1L4M
Q3109 BA1L4Z
D3101 GMA01
D3102 GMA01
D3103 GMA01
D3104 GMA01
D3106 GMA01
CN303 HI-SPEED
CN301
IN R
BEAT
IN L
MUT
OUT R
E
OUT L
+B
CN302
DOLBY SW
CR-B
CR-A
H/L
A/B
OSC
D R/P
R MUT
DECK 1 HEAD
L-CH
R-CH
CN371
DECK 2 HEAD
CN372
E HEAD
CN331
SVR30 20K
SVR31 20K
SVR32 20K
SVR33 20K
SVR34 10K
SVR35 10K
SVR36 50K
SVR37 50K
<NR>
<PBA>
<PBB>
<PCR>
<RP>
<HL>
<RCR>
<BEAT>
<OSC>

VOLTAGE(V)
DECK 2 REC
DECK 2 PLAY

IC370

NO.	PLAY	REC	OTHER
1	0	0	
2	0	0	
3	0.58	0.56	
4	5.3	5.3	
5	5.3	5.3	
6	0	0	5.5(HIDUB)
7	0	0	
8	5.2	5.2	6.7 (DECK 1 PLAY
9	0	0	
10	0	0	
11	11.9	11.9	
12	11.8	11.8	
13	11.0	11.0	
14	0	0	
15	0.60	0.60	5.5(CRO2)
16	5.1	5.1	
17	5.1	5.1	
18	0.56	0.56	
19	0	0	
20	0	0	

IC731

NO.	PLAY	REC	OTHER
1	5.2	5.2	
2	5.2	5.2	
3	5.2	5.2	
4	5.2	5.2	
5	0	0	11.4 (DECK 1
6	0	0	11.4 PLAY)
7	0	0	
8	5.2	5.2	
9	5.2	5.2	
10	5.2	5.2	
11	5.2	5.2	
12	9.8	9.8	0 (DECK 1
13	9.8	9.8	0 PLAY)
14	11.9	11.9	

IC351

NO.	PLAY	REC	OTHER
1	6.0	6.0	
2	6.0	6.0	
3	6.0	6.0	
4	6.0	6.0	
5	0	10.8	
6	6.0	6.0	
7	6.0	6.0	
8	6.0	5.9	
9	5.9	5.9	
10	6.0	6.0	
11	0.39	0.39	
12	0.40	0.40	
13	6.0	6.0	
14	1.3	1.3	
15	0	0	
16	11.9	11.9	
17	0	6.0	
18	6.0	6.0	
19	0.4	0.4	
20	0.39	0.39	
21	6.0	6.0	
22	5.9	5.9	
23	6.0	5.9	
24	6.0	6.0	
25	6.0	6.0	(5.9(DOL-B)
26	0.12	0.12	10.7(DOL-C)
27	6.0	6.0	
28	6.0	6.0	
29	6.0	6.0	
30	6.0	6.0	

IC374

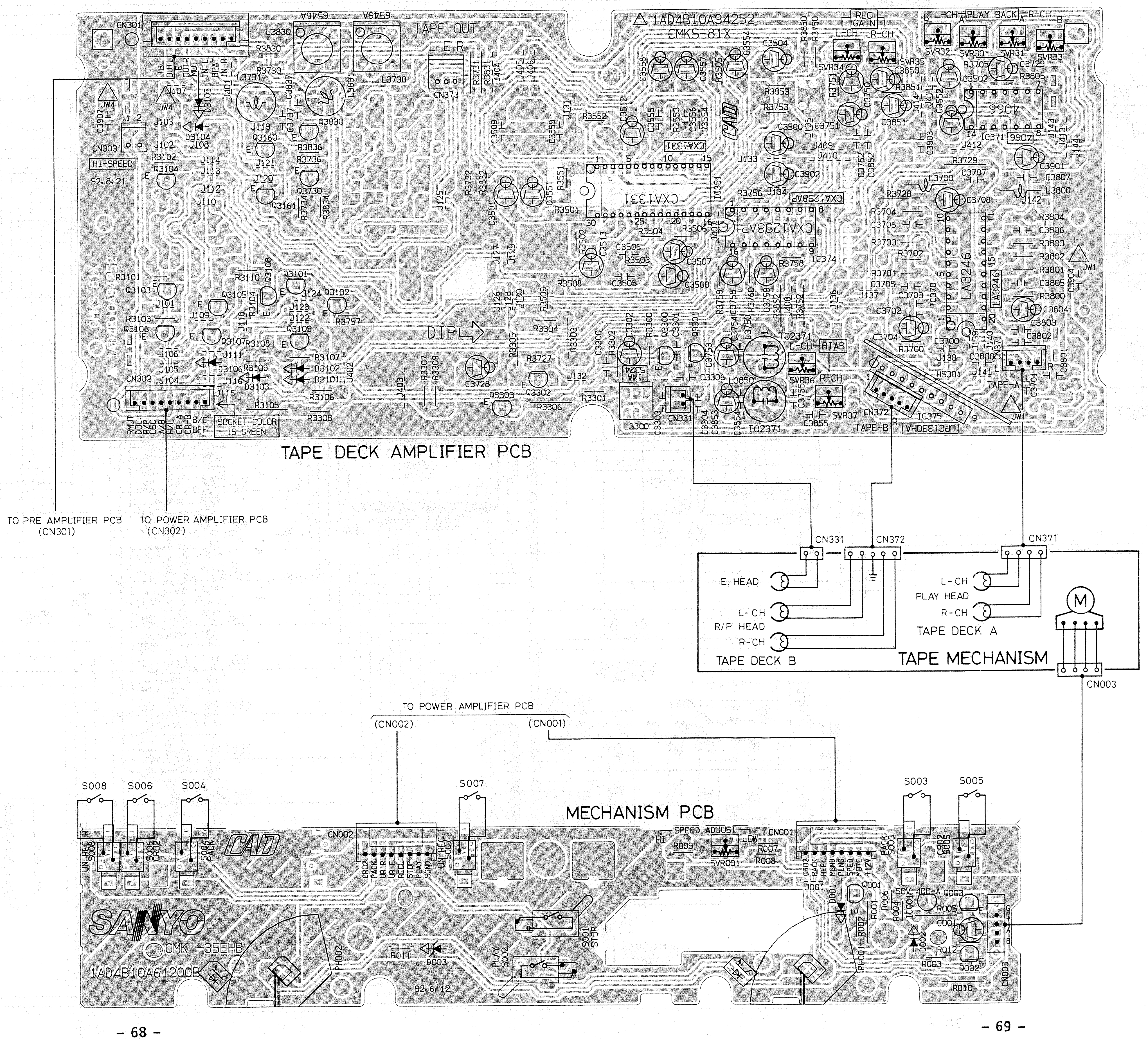
NO.	PLAY	REC	OTHER
1	0	0	
2	0	0	7.2(HIDUB)
3	0	0	10.7(CRO2)
4	10.8	0	0.70 (ALC
5	0	0	DOING)
6	6.0	6.0	
7	6.0	6.0	
8	5.8	5.7	
9	5.8	5.7	
10	6.0	6.0	
11	6.0	6.0	
12	6.1	6.1	
13	6.0	6.0	
14	6.0	6.0	
15	1.2	1.2	
16	11.9	11.9	

IC375

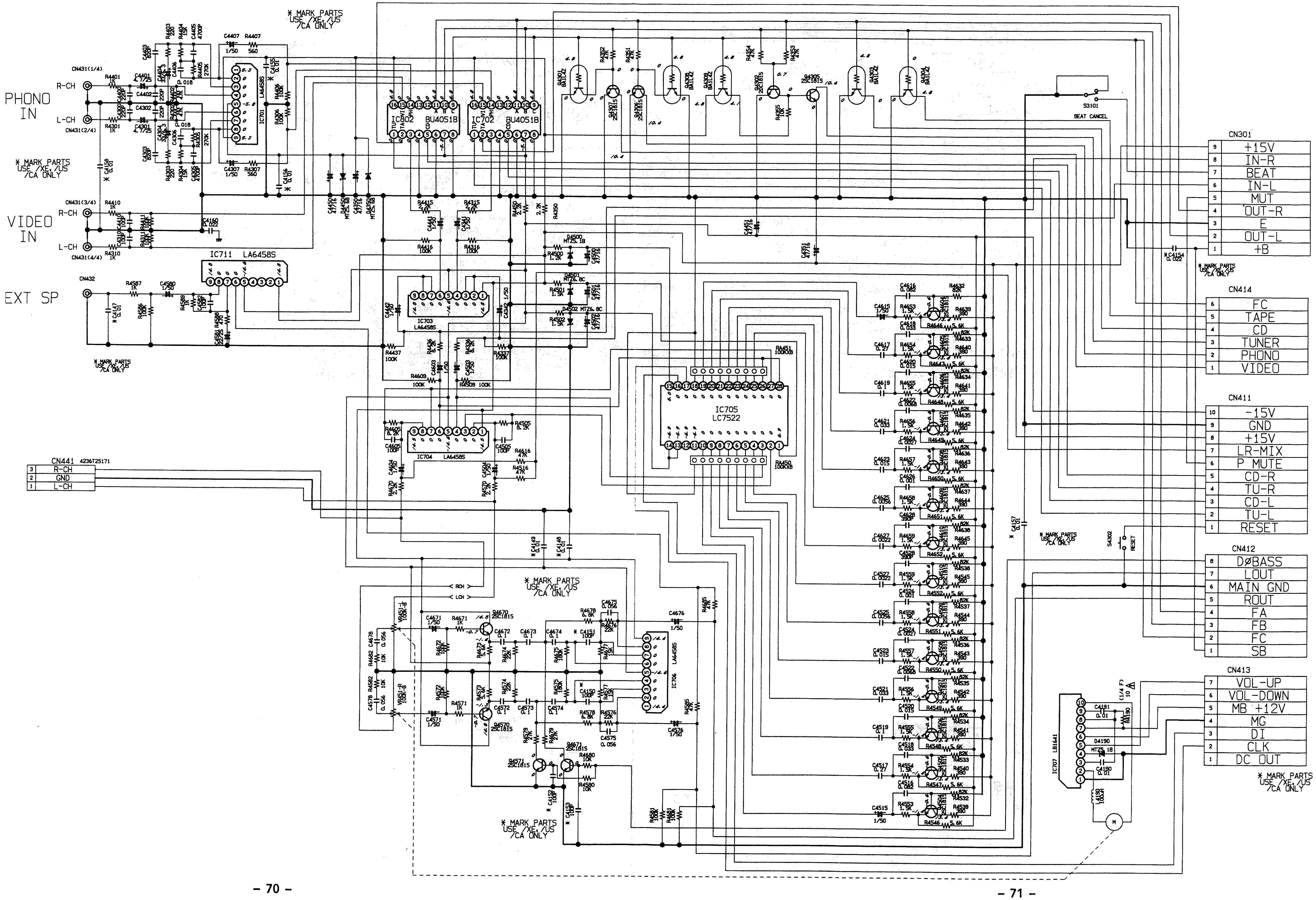
NO.	PLAY	REC
1	0	0
2	0	0
3	0	0
4	0	7.4
5	0	0
6	11.9	11.9
7	0	0
8	0	0
9	0	0

COMMON USE
- Q3300
  - 2SC1815or2SC945
- Q3303
  - 2SC1815or2SC945or2SC1740S
- Q3302
  - 2SA1015or2SA733
- Q3101 3103 3105 3106 3108 3160
  - DTC144ESorRN1204orBA1L4M
- Q3102 3107 3161
  - DTA144ESorRN2204orBN1L4M
- Q3104 3109
  - DTC144TSorBA1L4Z
- D3101 3102 3103 3104 3105
  - GMA01or1SS133
- D3105
  - DS442Xor1S2473
- IC371
  - MLC4066BorTC4066BP orBU4066BorµPD4066BC

WIRING DIAGRAM (TAPE DECK AMPLIFIER)

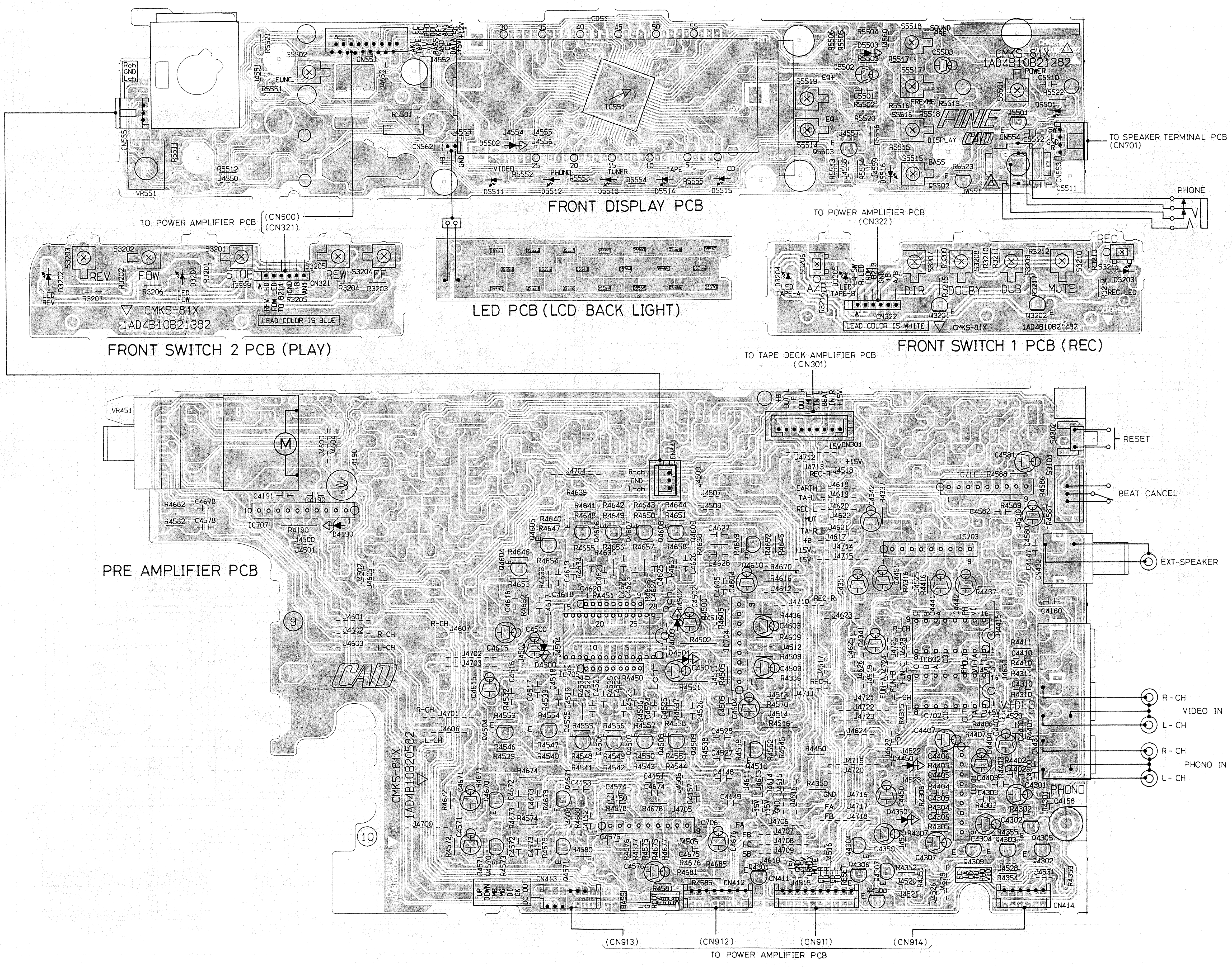

1AD4B10A94252
CMKS-81X
92.8.21
HI-SPEED
TAPE OUT
REC GAIN
PLAY BACK
L-CH
R-CH
DIP
BIAS
CXA1331
CXA1298AP
LA3246
UPC1330HA
SOCKET COLOR IS GREEN
TAPE-A
TAPE-B
TAPE DECK AMPLIFIER PCB
TO PRE AMPLIFIER PCB (CN301)
TO POWER AMPLIFIER PCB (CN302)
CN331
CN372
CN371
E. HEAD
L-CH
R/P HEAD
R-CH
TAPE DECK B
L-CH
PLAY HEAD
R-CH
TAPE DECK A
M
TAPE MECHANISM
CN003
TO POWER AMPLIFIER PCB
(CN002)
(CN001)
S008
S006
S004
S007
S003
S005
MECHANISM PCB
SPEED ADJUST
HI
LOW
SVR001
SANYO
CMK-35EHB
1AD4B10A61200B
92.6.12

SCHEMATIC DIAGRAM (PRE-AMPLIFIER)

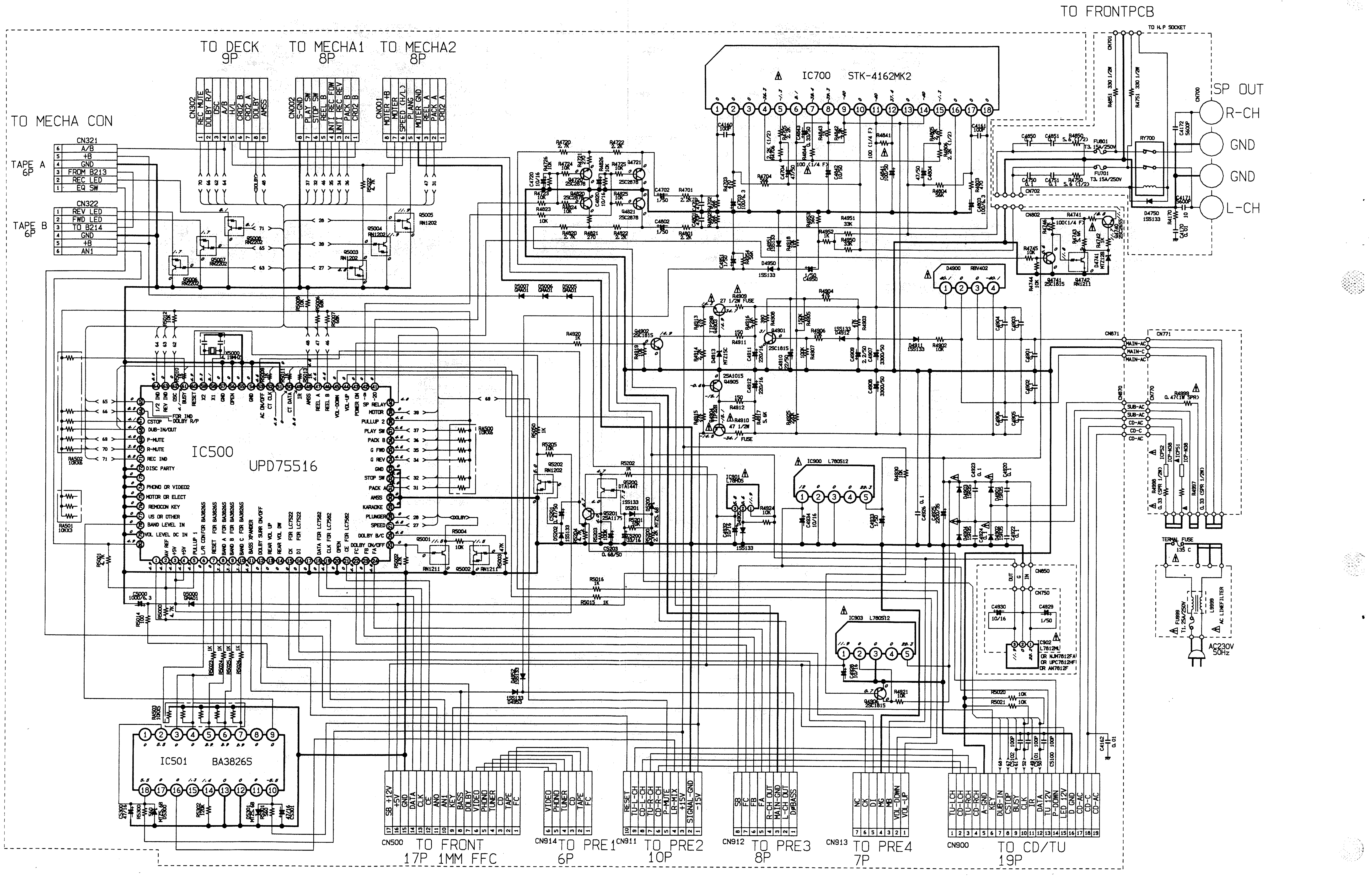


* MARK PARTS USE /XE,/US /CA ONLY
PHONO IN
R-CH
L-CH
CN431(1/4)
CN431(2/4)
CN431(3/4)
CN431(4/4)
VIDEO IN
EXT SP
CN432
IC701 LA6458S
IC711 LA6458S
IC702 BU4051B
IC802 BU4051B
IC703 LA6458S
IC704 LA6458S
IC705 LC7522
IC706 LA6458S
IC707 LB1641
S3101 BEAT CANCEL
S4302 RESET
CN441 4236T25171
3 R-CH
2 GND
1 L-CH
CN301
9 +15V
8 IN-R
7 BEAT
6 IN-L
5 MUT
4 OUT-R
3 E
2 OUT-L
1 +B
CN414
6 FC
5 TAPE
4 CD
3 TUNER
2 PHONO
1 VIDEO
CN411
10 -15V
9 GND
8 +15V
7 LR-MIX
6 P MUTE
5 CD-R
4 TU-R
3 CD-L
2 TU-L
1 RESET
CN412
8 DØBASS
7 LOUT
6 MAIN GND
5 ROUT
4 FA
3 FB
2 FC
1 SB
CN413
7 VOL-UP
6 VOL-DOWN
5 MB +12V
4 MG
3 DI
2 CLK
1 DC OUT
RCH
LCH
M
D4190 MTZ5.1B
D4500 MTZ5.1B
D4501 MTZ6.8C
D4502 MTZ6.8C
Q4670 2SC1815
Q4671 2SC1815
Q4570 2SC1815
Q4571 2SC1815
Q4305 2SC1815
Q4301 BA1L4Z
Q4302 BA1L4Z
Q4303 BA1L4Z
Q4304 BA1L4Z
R4450 100KX8
R4451 100KX8

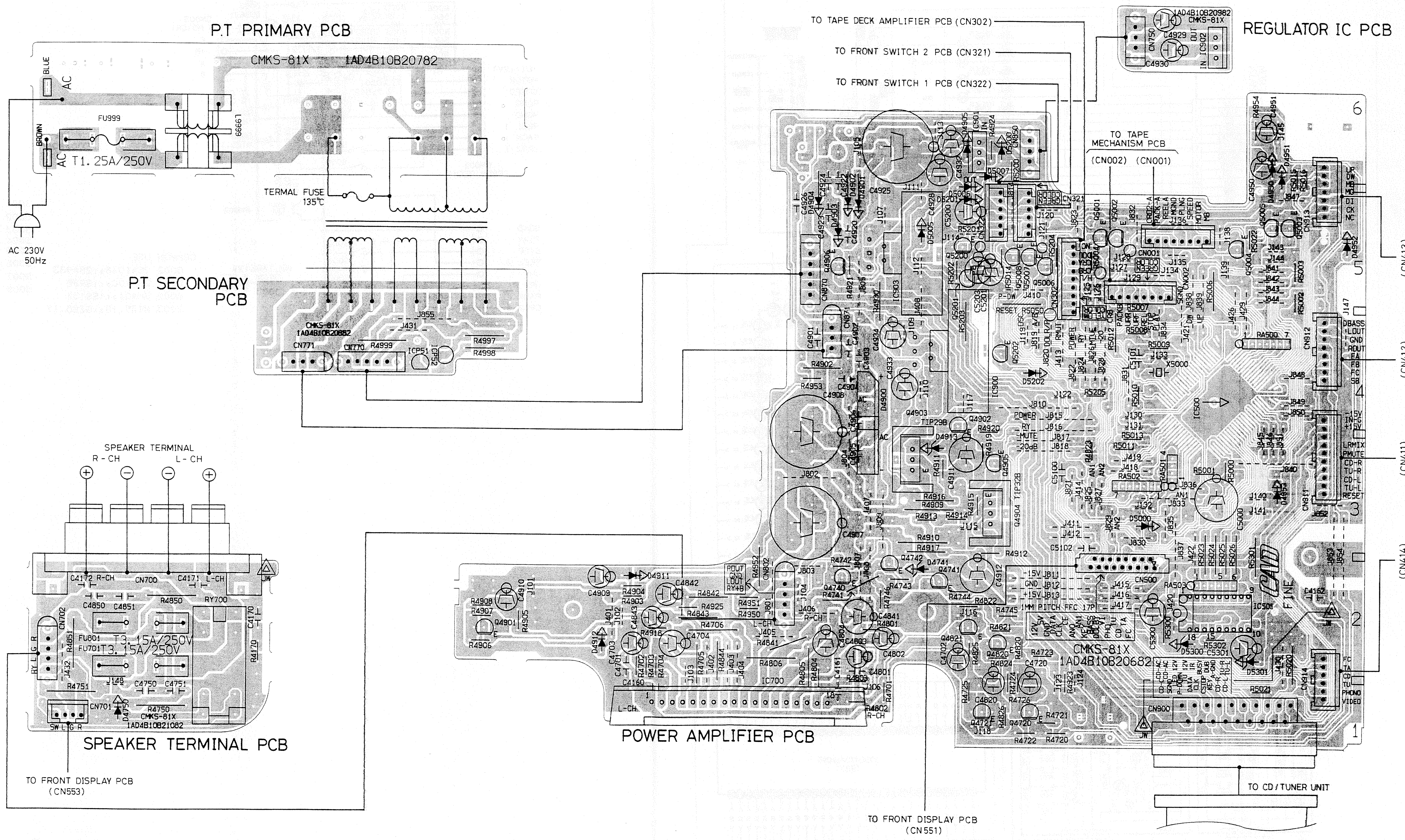
WIRING DIAGRAM (PRE-AMPLIFIER & FRONT)


FRONT DISPLAY PCB
CMKS-81X
1AD4B10B21282
TO SPEAKER TERMINAL PCB (CN701)
PHONE
TO POWER AMPLIFIER PCB (CN500) (CN321)
TO POWER AMPLIFIER PCB (CN322)
FRONT SWITCH 2 PCB (PLAY)
CMKS-81X
1AD4B10B21382
LEAD COLOR IS BLUE
REV
FOW
STOP
REW
FF
LED PCB (LCD BACK LIGHT)
FRONT SWITCH 1 PCB (REC)
LEAD COLOR IS WHITE
CMKS-81X
1AD4B10B21482
DIR
DOLBY
DUB
MUTE
REC
REC LED
TO TAPE DECK AMPLIFIER PCB (CN301)
PRE AMPLIFIER PCB
CMKS-81X
1AD4B10B20582
RESET
BEAT CANCEL
EXT-SPEAKER
R-CH
VIDEO IN
L-CH
R-CH
PHONO IN
L-CH
(CN913)
(CN912)
(CN911)
(CN914)
TO POWER AMPLIFIER PCB

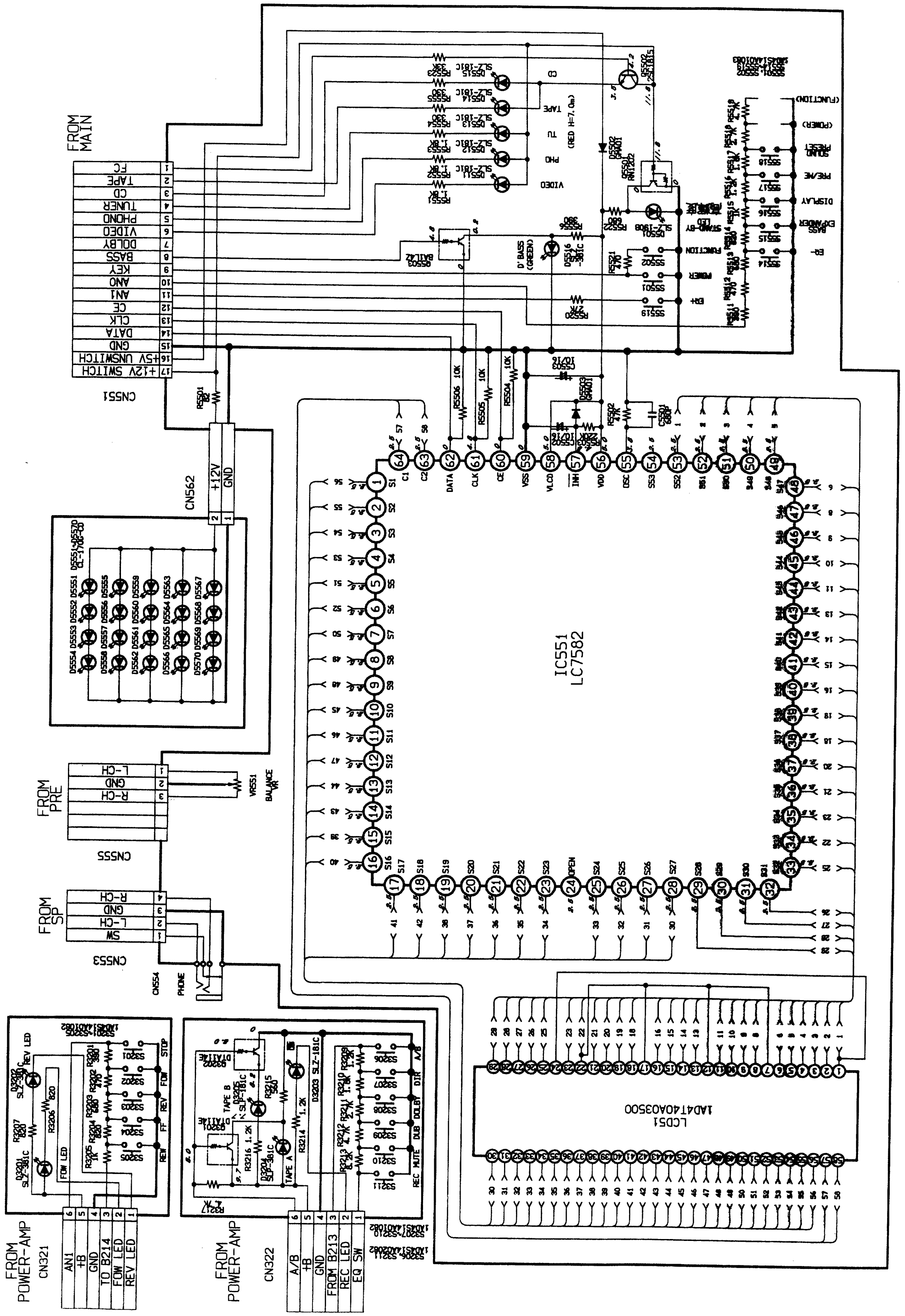
SCHEMATIC DIAGRAM (SYSCON & POWER AMPLIFIER)


TO FRONTPCB
TO H.P SOCKET
TO DECK 9P
TO MECHA1 8P
TO MECHA2 8P
TO MECHA CON
CN321
TAPE A 6P
A/B
+B
GND
FROM B213
REC LED
EQ SW
CN322
TAPE B 6P
REV LED
FWD LED
TO B214
GND
+B
AN1
CN302
REC MUTE
DOLBY R/P
DSC
A/B
H/L
CR02 B
CR02 A
DOLBY
AMSS
CN002
S-GND
PLAY SW
STOP SW
REEL B
UNIT REC FDW
UNIT REC REV
PACK B
CR02 B
CN001
MOTER +B
MOTER
SPEED (H/L)
PLANG
MOTER GND
REEL A
PACK A
CR02 A
IC700 STK-4162MK2
SP OUT
R-CH
GND
GND
L-CH
RY700
FU801 T3.15A/250V
FU701 T3.15A/250V
D4900 RBV402
IC500
UPD75516
X5000
IC501 BA3826S
IC900 L7805I2
IC901 L78M05
IC903 L7805I2
IC902 L7812HL OR NJM7812FA OR UPC7812HF OR AN7812F
CN871
CN771
MAIN-AC
MAIN-C
MAIN-AC
CN870
CN770
SUB-AC
SUB-AC
CD-AC
CD-C
CD-AC
CN850
CN750
TERMAL FUSE 135°C
AC LINEFILTER
AC230V 50Hz
CN500 TO FRONT 17P 1MM FFC
SB +12V
+5V
DATA
CLK
CE
AN0
AN1
KEY
BASS
DOLBY
VIDEO
PHONO
TUNER
CD
TAPE
FC
CN914 TO PRE1 6P
VIDEO
PHONO
TUNER
CD
TAPE
FC
CN911 TO PRE2 10P
RESET
TU-L-CH
CD-L-CH
TU-R-CH
CD-R-CH
P-MUTE
LR-MIX
+15V
SIGNAL GND
-15V
CN912 TO PRE3 8P
SB
FB
FA
R-CH OUT
MAIN-GND
L-CH OUT
D.P.BASS
CN913 TO PRE4 7P
NC
CK
DI
MG
MB
VOL-DOWN
VOL-UP
CN900 TO CD/TU 19P
TU-LCH
CD-LCH
TU-RCH
CD-RCH
A-GND
KEY
DUB-IN
CSTOP
BUSY
CLK
IR
DATA
TU 12V
P-DOWN
LED 12V
D GND
CD-AC
CD-C
CD-AC

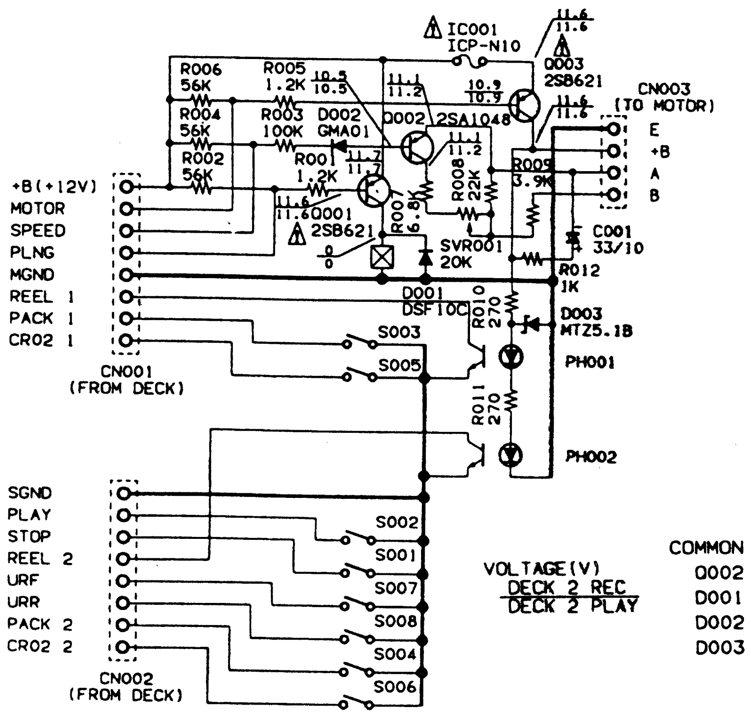
WIRING DIAGRAM (POWER AMPLIFIER)


P.T PRIMARY PCB
CMKS-81X
1AD4B10B20782
BLUE
AC
BROWN
FU999
T1.25A/250V
TERMAL FUSE
135℃
AC 230V
50Hz
P.T SECONDARY PCB
CMKS-81X
1AD4B10B20682
CN771
CN770
R4999
ICP51
R4997
R4998
J855
J431
SPEAKER TERMINAL
R - CH
L - CH
CN700
C4172 R-CH
C4171 L-CH
C4850
C4851
R4850
RY700
CN702
FU801
FU701
T3.15A/250V
T3.15A/250V
R4751
J148
C4750
C4751
CN701
R4750
D4750
CMKS-81X
1AD4B10B21082
SW L G R
SPEAKER TERMINAL PCB
TO FRONT DISPLAY PCB
(CN553)
TO TAPE DECK AMPLIFIER PCB (CN302)
TO FRONT SWITCH 2 PCB (CN321)
TO FRONT SWITCH 1 PCB (CN322)
TO TAPE
MECHANISM PCB
(CN002)
(CN001)
REGULATOR IC PCB
1AD4B10B20982
CMKS-81X
CN750
C4929
C4930
IN IC902 OUT
CN413
CN412
CN411
CN414
TO PRE AMPLIFIER PCB
DBASS
LOUT
GND
ROUT
FA
FB
FC
SB
+15V
IN-G
-15V
LRMIX
PMUTE
CD-R
TU-R
CD-L
TU-L
RESET
CD
TU
PHONO
VIDEO
IC500
IC505
IC900
IC700
CN500
CN900
CN911
CN912
CN913
CN914
CN802
CN870
CMKS-81X
1AD4B10B20682
FINE
POWER AMPLIFIER PCB
TO FRONT DISPLAY PCB
(CN551)
TO CD / TUNER UNIT

SCHEMATIC DIAGRAM (FRONT)


FROM MAIN
FC
TAPE
CD
TUNER
PHONO
VIDEO
DOLBY
BASS
KEY
AN0
AN1
CE
CLK
DATA
GND
+5V UNSWITCH
+12V SWITCH
CN551
CN562
+12V
GND
FROM PRE
L-CH
GND
R-CH
CN552
VR551
BALANCE
FROM SP
R-CH
GND
L-CH
SW
CN553
CN554
PHONE
IC551
LC7582
LCD51
1AD4T40A03500
FROM POWER-AMP
CN321
AN1
+B
GND
TO B214
FOW LED
REV LED
FROM POWER-AMP
CN322
A/B
+B
GND
FROM B213
REC LED
EQ SW

SCHEMATIC DIAGRAM (TAPE MECHANISM)


IC001
ICP-N10
Q003
2SB621
CN003
(TO MOTOR)
E
+B
A
B
R006
56K
R005
1.2K
R004
56K
R003
100K
D002
GMA01
Q002
2SA1048
R002
56K
R001
1.2K
Q001
2SB621
R007
6.8K
R008
22K
R009
3.9K
C001
33/10
SVR001
20K
R012
1K
D001
DSF10C
R010
270
R011
270
D003
MTZ5.1B
PH001
PH002
+B(+12V)
MOTOR
SPEED
PLNG
MGND
REEL 1
PACK 1
CR02 1
CN001
(FROM DECK)
S003
S005
SGND
PLAY
STOP
REEL 2
URF
URR
PACK 2
CR02 2
CN002
(FROM DECK)
S002
S001
S007
S008
S004
S006
VOLTAGE(V)
DECK 2 REC
DECK 2 PLAY

COMMON USE
Q002 2SA1048or2SA933
D001 DSF10Cor1SR35
D002 GMA01or1SS133
D003 MTZ5.1BorGZS5.1Y

PH001 002
SPI33534C
S001 002
1AD4S12A02000
S003-008
1AD4S13A01800

S001	STOP SW
S002	PLAY SW
S003	DECK 1 PACK SW
S004	DECK 2 PACK SW
S005	DECK 1 CR02 SW
S006	DECK 2 CR02 SW
S007	DECK 2 UNREC F SW
S008	DECK 2 UNREC R SW

SANYO

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Osaka, Japan

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2127#/1022033
2016
2243
832#2021026
685#/1019056
834#/1026115
761#1023066
732#/1026065

SANYO
FISHER

Supplement

FOR MODELS

DCD5(XE)	SM580185		
DCD10(XE)	SM580231		
DCD15(XE)	SM580182		
DCD20(XE)	SM580245	DCSG30	SM580244
DCD30(XE)	SM580024	TADG40	SM580064
DCD40(XE)	SM580237	DCSG50	SM580243
DCD50(XE)	SM580067	TADG60	SM580071
DCD70(XE)	SM580068	TADG80	SM580069

Date: December 20, 1993

SERVICE MODE (CD, TUNER & AMPLIFIER)

The explanations in the service manuals how to activate the various service modes are not very clear. Please proceed as follows:

1. Switch power on.
2. Press the two specified keys simultaneously for apprx. 0.5 s to activate the service mode entry state.
3. Press the appropriate key within 1 second after step 2 to activate the desired service mode.

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